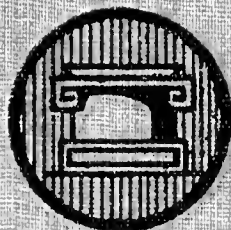


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# PROGRESSIVE STEPS IN ARCHITECTURAL DRAWING

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GEO. W. SEAMAN

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# PROGRESSIVE STEPS. *IN* ARCHITECTURAL DRAWING



*By*

• GEO. W. SEAMAN • ARCHITECT •

• INSTRUCTOR • IN • ARCHITECTURE • SCHOOL • OF • INDUSTRIAL • ARTS •  
TRENTON • N. J.

▽ A step-by-step Method for Student-Draftsmen. ▽  
Together with Details of Construction & Design.  
▽ To be used as a Text-book in the Draughting.  
Courses in High Schools; Technical Schools &c. and as  
a Reference Book in Architectural Offices. ▽ ▽ ▽ ▽

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Second Edition, 1920

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## INTRODUCTION

In presenting this work it has been the purpose of the writer to follow a definite system of draughtsmanship, and to explain the various steps taken so that they will act as a guide to the young student-draughtsman. As a rule the student knows how the finished product should appear, but seldom has he any definite idea of how best to obtain this result. He will find himself drawing line after line without their having any meaning to him; in some cases using another drawing as an example, counting the lines of the cornice, belt course or other details and laying great stress on the *number* of lines used, but knowing little of their meaning or effect.

Very often in the classroom the student will be found working earnestly over unimportant features of the plan or elevation before he has worked out broadly the whole drawing. This often brings his work to an abrupt stop, and he has no idea of how to proceed with his drawing in a practical manner. Had the student blocked out the plans and elevations in their entirety, he would have at once obtained a grasp of the problem which would have enabled him to carry out his work to a successful completion.

The experienced draughtsman must not judge the beginner too severely for any mistakes which he may make. The student is practically learning a new language, and therefore he must acquire the proper pronunciation and meaning of the "words", step by step, before he can readily "talk" (or draw) with his pencil in a creditable manner.

It is, therefore, in the hope of assisting the student-draughtsman to acquire a definite method in the laying out of his work that the following is respectfully submitted.

Trenton, New Jersey,  
February, 1919.

GEO. W. SEAMAN.

Gift. Rehabilitation Dept. S.B.U.C. 1923  
V. 1 27

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## PROFESSIONAL PRACTICE

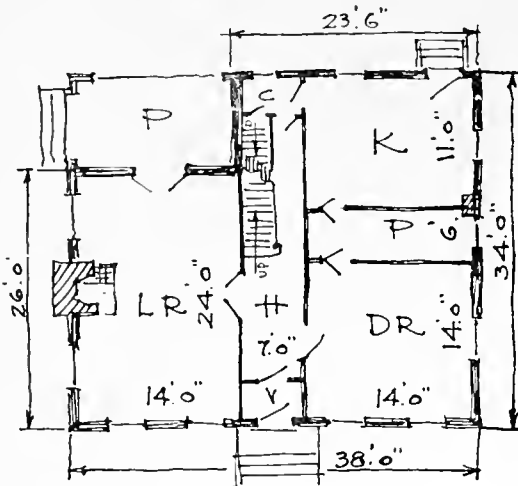
The usual freehand sketch-plans and elevations, drawn by the architect on the back of an envelope or bit of scrap paper, either during or just following his consultation with the future client, are reproduced in a typical manner on Plate 1. This sketch may be the result of a dozen or more attempts of the architect to interpret his client's requirements, or he may have been successful in the first attempt. Plates 27, 28, 29 and 30 should also be studied for further information, reference, and practice in making sketch-plans.

The size of rooms, their position in the plan, style and size of house, its location and the materials to be used will have all been thoroughly discussed. The method of heating and lighting, and also the quality and style of the plumbing fixtures will have been settled upon, and the important question of cost taken up.

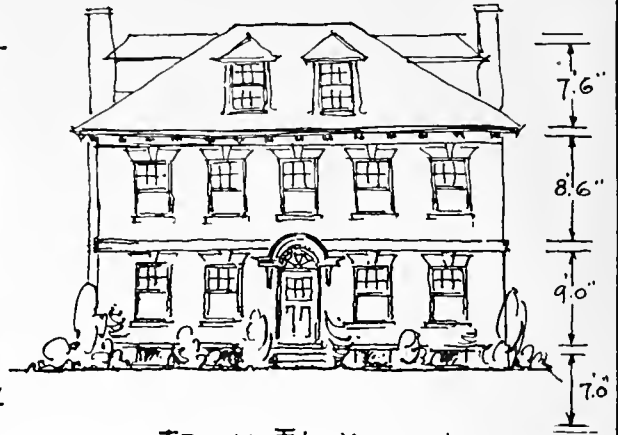
The architect then gives these rough sketches to one of his draughtsmen with instructions to "work it up". Thickness and material for the outside walls are determined, and also any special features of design either in plan or elevation, which might well be worked into the drawings. Sometimes a start is made at once on  $\frac{1}{4}$ " scale working drawings, but more often the plans and elevations are worked up at  $\frac{1}{8}$ " scale, and submitted to the client for his approval before starting the final drawings. On important points consultations between the architect, draughtsman, and client are necessary. In designing the elevations and arranging the lay-out of the plans a great amount of study is required before the ultimate and satisfactory result is attained. These details of design have to be studied and sketched sometimes repeatedly (often in perspective view), using a soft pencil of course, before arriving at an entirely satisfactory solution of the problem.

With the small amount of data given, it can readily be seen that much depends on the ability of the draughtsman to carry out his work rapidly and efficiently. He can only do this by having a thorough and broad understanding of the subject. *And above all, he must follow a definite system of drawing, blocking out the important points first*, and filling in the details afterwards, as shown in the following plates. This method is easier, quicker, and more comprehensive than the method adopted by some student-draughtsmen who early in the work labor over unimportant details, almost to the utter neglect of the more essential parts of the drawing.

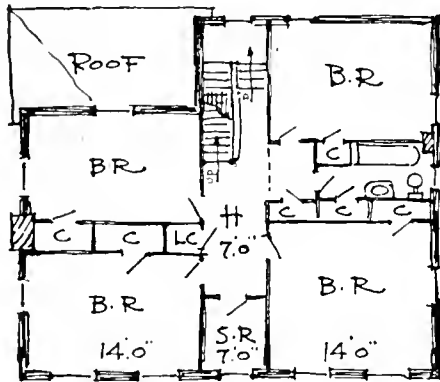
In the following set of plates the student will proceed with the plans and elevations almost line for line the same as the professional draughtsman would do. This method should be used for working out all drawings whether for small or large



FIRST FLOOR PLAN



FRONT ELEVATION



SECOND FLOOR PLAN

L.R. 14' x 24'  
D.R. 14' x 14'  
K. 11' x 14'  
P. 6' x 14'  
H. 7'0" WIDE

9" BRICK - 4" HOLLOW TILE  
SECOND STORY 9" BRICK  
SECOND FLOOR  
4 BED ROOMS  
SEWING ROOM & BATH  
ATTIC 2 BED ROOMS



## THE ARCHITECT'S SKETCHES FOR DRAUGHTSMAN

THE BRICK TO BE DARK RED WITH VARIATIONS OF COLOR - WIDE MORTAR JOINTS - ROOF OF PURPLE OR RED SLATE - ALL EXTERIOR WOOD WORK TO BE PAINTED WHITE -

FINISH OF FIRST STORY ENTIRELY WHITE - STAIRS WHITE WITH BIRCH TREADS, NEWELS & RAILS - SECOND STORY ENTIRELY WHITE WITH MAHOGANY FINISH DOORS - ATTIC FINISHED IN CYPRESS, NATURAL - FLOORS ALL OF OAK.

HEATING TO BE BY HOT WATER - ALL PLUMBING FIXTURES PORCELAIN - ELECTRIC WIRING BY CONDUIT SYSTEM - GAS IN KITCHEN FOR RANGE & WATER HEATER.



buildings. The only differences are in the size, the arrangement of the rooms, the location of partitions, etc. All drawings should, of course, be first carefully drawn in lead pencil, and then just as carefully "inked in". Always cross the lines slightly at intersections even in inking, as shown throughout the plates in this book, and especially illustrated at the bottom of Plate 35.

In inking in a drawing the circles should be inked first, because better results are obtained by joining straight lines to curved ones than vice-versa. Next the horizontal lines should be inked, drawing from left to right and working from the top to the bottom of the paper. After the horizontal lines, the vertical lines should be inked. These are drawn from the bottom to the top of the paper, working from left to right. The freehand curves are inked after the other lines have been completed. The lettering should be inked in last.

## PRACTICAL HINTS ON DRAWING

The student should first be certain that he is not drawing under unnecessary difficulties. He should have the light fall on his board unobstructed, from the front and left. He should see that his drawings and tools are within easy reach, and that he has a good scratch block, preferably fastened to the under side of his table or board with a cord. Avoid borrowing instruments. See that the T-square works easily along the edge of the board. Keep the drawing clean of pencil sharpenings, dust, etc., by the frequent use of a small dust brush.

In regard to work on the drawing itself, the student should keep his drawing pencil well sharpened to a long fine point, and turn it as the line is drawn to keep the point in good shape. The point should never be so short that the wood part of the pencil touches the T-square or triangle, as this results in a ragged line. Use a medium-soft pencil, HB, F, or H (No. 2, 3, or 4) in preference to an exceedingly hard pencil, as a drawing of much better character can be made with a soft pencil when kept well pointed, and the lines are much easier erased when not needed.

When laying out a drawing first determine its position on the sheet so that it will appear to the best advantage, taking future lettering and surrounding scale details or notes into consideration. Then determine the most important parts of the drawing and *put these in first*. Concise indication of the essential parts of a plan or elevation will help the progress of the drawing materially, and make the entire lay-out much more easily understood. After the essential or construction parts are drawn, the details may be worked in as hereafter shown.

**Plans.**—In drawing a plan the essential parts are the outside wall lines and the positions of the interior partitions, irrespective of doors, windows, etc. After the walls and partitions are indicated, the windows and doors, chimneys, stairs, dressers, fixtures, porches, and other details may be shown in their correct locations. In all the plans and elevations always work to *center lines* of windows, doors, and like details, instead of working to the sides of them. It is obvious that in this way the work can be laid out more rapidly and also more accurately than when working to side lines.

**Room Sizes.**—The sizes of rooms and their location will be determined by the requirements and the direction in which the building is to face. While there are no regular dimensions for the various rooms, certain standards will be suggested which may be helpful. The dimensions are often regulated by the quantity and position

of the furniture, especially in the dining-room, kitchen, and in the bedrooms. In the living-room it is necessary to provide spaces for a piano, bookcases, and other furniture; in the dining-room about 6 feet of wall space is necessary for a sideboard, which is usually placed in the center of a side wall either towards the kitchen or directly opposite the main hall entrance to the room. The kitchen, of course, requires spaces for a sink with drain boards, dresser, coal and gas ranges and boiler, and also a good location for the work table. If possible, the bedrooms should have two places where a bed might be placed, and also spaces for dressers and dressing tables. All bedrooms should have ample closet space. The bathroom should have plenty of space for all fixtures, which should be placed to the best advantage for plumbing installation.

Most of the rooms should be rectangular in shape rather than square, in the proportion of about 14' to 16'. The living-room is often twice as long as it is wide. This is made necessary by its position on the plan, and by the requirements of the room. The various rooms and passages should be approximately the following sizes: the living-room from 14' x 16' to 18' x 30'; the dining-room, 14' x 14' or 13' x 15' to 16' x 20'; the hall at least 7' wide; pantry at least 6' wide; kitchen, 10' x 12' to 14' x 16'; bedrooms, 10' x 12' to 14' x 18'; bathrooms, 7' x 10' or more; passage halls, 3' wide or more. In large houses the above rooms are of course made as spacious as possible and may exceed the dimensions given, but these dimensions may be used as a standard, which may be altered by special requirements.

**Walls.**—The outside walls of brick houses and the smaller class of buildings are usually 9" or 13" thick, with 2" inside for furring and plastering, or they may be 9" brick and 4" hollow tile. Eight inch, 10" or 12" hollow tile walls, rough cast on the outside are also used. If the building is frame the outside wall will be 7" thick (2" x 4" stud, 1" sheathing, 1" outside finish, and 1" inside plastering). Interior partitions are 6" thick for main partitions and 4" or 6" for closet partitions.

**Interior Details.**—Door openings are 2'-8", 2'-10", or 3'-0" wide for main rooms, and 2'-4" or 2'-6" for closets. Double doors are 4'-0" to 5'-6" wide. Doors are 6'-8", 6'-10", 7'-0", or 7'-6" high. Outside doors are 3'-0" or 3'-2" wide, and 6'-10" to 7'-6" high, the use of a transom or over-door above being determined by the design. Stairs should be at least 3'-0" wide, wall to inside of rail, for the main stair, and 2'-6" in the clear for rear, cellar, and attic stairs. Treads should be 10" (rise to rise), and risers 7½" or slightly less for the main stair. Rear, cellar, and attic stairs may have 9" treads, and 8" or 8½" risers.

Chimney flues may be 8" x 8", 8" x 12", or 12" x 12". Some are made of terracotta, and require 4" or more of brick around them to strengthen and make them look sturdy in elevation.

Windows shown on a plan should be approximately 3'-2" wide, 3'-6" to 4'-0"

wide if an outside architrave is used. The windows may vary considerably in order to obtain good proportions in the elevations, but sufficient wall space should always be left for furniture. Casement and other special windows are optional, depending on the effect desired.

Outside porch columns are usually 10", 12" or more in diameter for round columns, and 8" to 10" square for square columns. See Plates 20 and 21. Piers may be 12" x 12", 12" x 17", or any dimension which looks well in the design, and can be worked out in brick sizes. Porch steps are 12" wide, and rails are 3" wide.

**Fixtures.**—In indicating bathroom and kitchen fixtures in the plan, see Plate 8, use the following dimensions and directions: (1) Bathtub, 2'-3" to 2'-6" wide and from 4'-0" to 6'-0" long, with either square or rounded end. (2) Lavatory, 20" x 24", with an elliptical bowl and double lines at the back to indicate the integral back against the wall. (3) Closet, 15" circular seat and 18" x 5" back or tank joined by straight lines, the entire projection from the wall 2'-2". (4) Kitchen sink, 24" x 30", drawn with double lines, and with an 18" x 24" drain board at one end or both ends. (5) Coal range, 2'-6" x 3'-0". (6) Boiler, 12" circle. (7) Gas range, 24" x 36". (8) Dresser, 12" deep and 4'-0", 4'-6", 5'-0", or 6'-0" long. There is an added width of 6" at the bottom for the counter shelf and drawers underneath. (9) Soil pipe, 6" circle. (10) Wash tray, 24" x 26", drawn with double lines.

**Elevations.**—The usual heights for ceilings are as follows, though they may vary with the requirements of the particular job: First story, 9'-0" or 9'-6"; Second story, 8'-6" or 9'-0"; Cellar, 7'-0" in the clear. Floor joists are 2" x 10", and are covered with 1" rough flooring and 1" finished flooring. The plaster on the ceilings is 1" thick, making the total thickness of the floor 13". Attic floor joists may be 2" x 8". All floor joists are set 16" on centers so lath joints will "break" properly. Rafters are 2" x 8" or 2" x 10", set 24" on centers. If they are to be plastered they must be cross-furred with strips set 16" on centers. Timbers in stock sizes of larger dimensions are used for joists, etc., when required.

When it is desired to have the first floor set up several steps above the grade, the height of the floor line and top of water table should be 2'-8" above the grade line. The floor may also be set just one step (6") above the grade, and the cellar windows set down in areas.

**Exterior Details.**—The dimensions from the floor lines to window sills (top of outside masonry sill) should be approximately 2'-3". The usual lengths of window panes for the first story are 28", 30", or 32", making the openings 5'-6", 5'-10", or 6'-2" in height if a 2" reveal of frame is used, and higher if an especially wide architrave is used. The second-story windows usually have 26" or 28" glass, making the total height of the openings 5'-2" or 5'-6". Kitchen, pantry and bathroom window openings are usually less than stated above in order to have the sills set

at a higher level. These dimensions are given as a guide for laying out work, and of course may vary slightly with peculiarities of design. Kitchen window sills are usually 3'-0" to 3'-6" above the floor line. This distance is to the top of the outside masonry sill. The widths of windows and doors was noted previously under the head of Plans. The usual heights of outside door openings are 6'-10", 7'-0", and 7'-6". In public buildings these may be made higher.

The window sills of masonry buildings are made of 5" or 7½" stone, or 4" brick set on edge, with a cement wash. Heads are of 7½", 10", or 12" stone; or brick ground to the proper radius; or 8" and 4" brick set on edge; or they are made of 8" or 12" brick segmental arches. All may have brick or stone key-stones and skew-blocks, according to design. These should project 2½" or 5" above the top of a flat arch, and if the cornice bed mould comes directly over the second story arches, either one or two courses of brick stretchers should show between the top of key block or arch and the bottom of the bed mould. Examples of window sills, heads, etc., will be found on Plate 18. The illustrations will help explain the above. Door openings have 5" or 6" stone sills.

Door and window openings of frame buildings usually have a 4" or 4½" plain or moulded outside architrave, and 2" wood sills.

Slate and wood shingle roofs, to be free from leaks, should have at least a 30 degree pitch, but seldom more than 45 degrees. Tin and slag roofs are kept flat, but with a pitch of not less than ¼" to the foot.

Show rafters or brackets are spaced approximately 24" on centers. Porch floors should be 3" to 6" below the floor of the house. Porch rails are approximately 2'-6" high. Columns and steps have been previously noted under the head of Plans. The height of porches should be 8'-0" to 9'-6" from the floor to the under side of the plate or cornice soffit. Water tables are of stone, or brick on edge, about 8" to 12" in height. In frame structures they are of wood.

## PROGRESSIVE STEPS IN THE DEVELOPMENT OF PLANS

Carefully study Plate 8, and use the information shown there when drawing plans at  $\frac{1}{4}$ " scale.

(1)—First draw the front and rear walls and indicate the parallel inside partitions in their correct positions. In this plan the outside walls should be 13", 9" for the brick and 4" for hollow tile. The inside stud partitions are 6" thick. The length of the lines should be indefinite, but approximately the width of building.

(2)—Draw the side-wall lines and indicate the hall partitions, and any other partitions parallel to them. These partitions should also be drawn with lines of indefinite length.

(3)—All the partitions are next drawn their entire lengths, irrespective of the position of doors, etc.

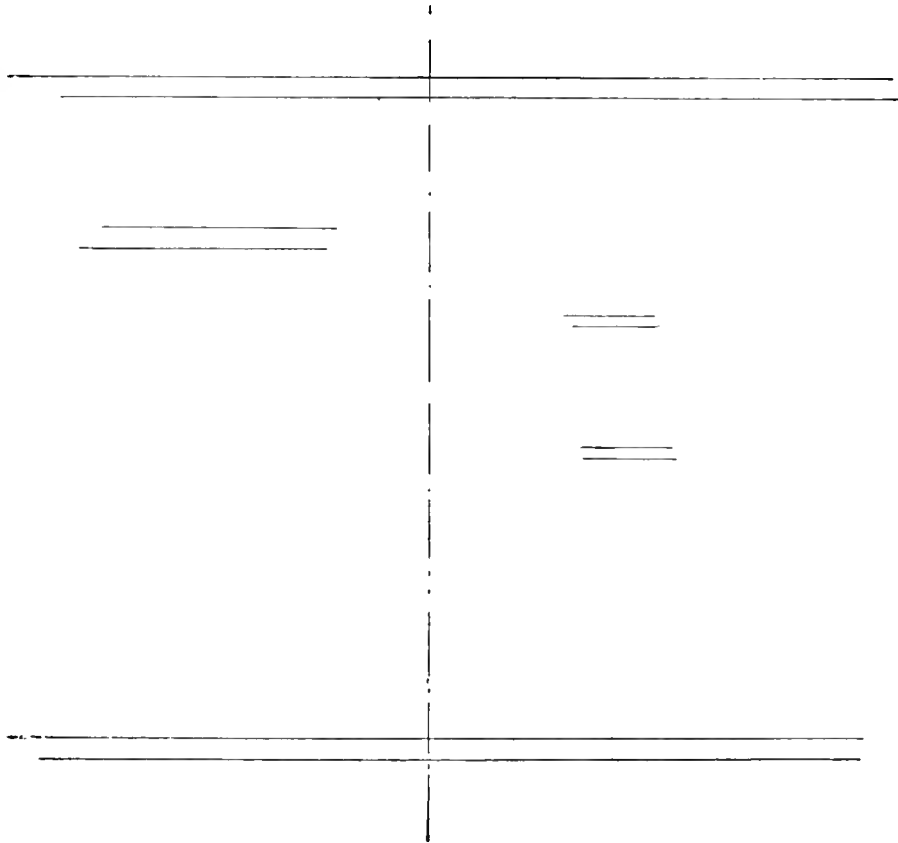
(4)—Indicate the positions and correct widths of the inside doors, locating them by center lines when coming on the axes of rooms or halls. Locate and outline the fireplace and chimney flues. The brick column of the rear porch is located.

(5)—Erase partition lines in the inside door openings, and show which way the doors swing. Draw the center lines and indicate the widths for all window and outside door openings. The stairs must be figured out and drawn according to the heights of ceilings and the number of steps. Consult Plate 9. This applies to the main and cellar stairs. A broken line separates them. Draw the 4" x 4" tiles of the hearth for the fireplace. Letter the rooms, halls and porch uniformly and of a size that is "in scale" with the entire drawing. Study Plates 35 and 36 for architectural lettering.

(6)—Draw the outside steps. The window and door openings should have the frames drawn according to the style determined upon. See Plate 8. Complete the drawing of the plan of the fireplace, following the details shown on Plate 8. The radiators are shown in their correct locations. Their sizes and heights should be indicated by lettering. Electric and gas outlets should likewise be shown in their correct locations. Switches should be located with an "S," and dotted lines drawn from the switches to the electric lights. The number of lights at each outlet should also be shown. Draw the fixtures of the kitchen and pantry according to the plan details shown on Plate 8.

Draw the line in the outside walls which indicates that brick and hollow tile are used. The line should be 4" from the inside edge of the wall. Indicate different materials by cross-hatching.

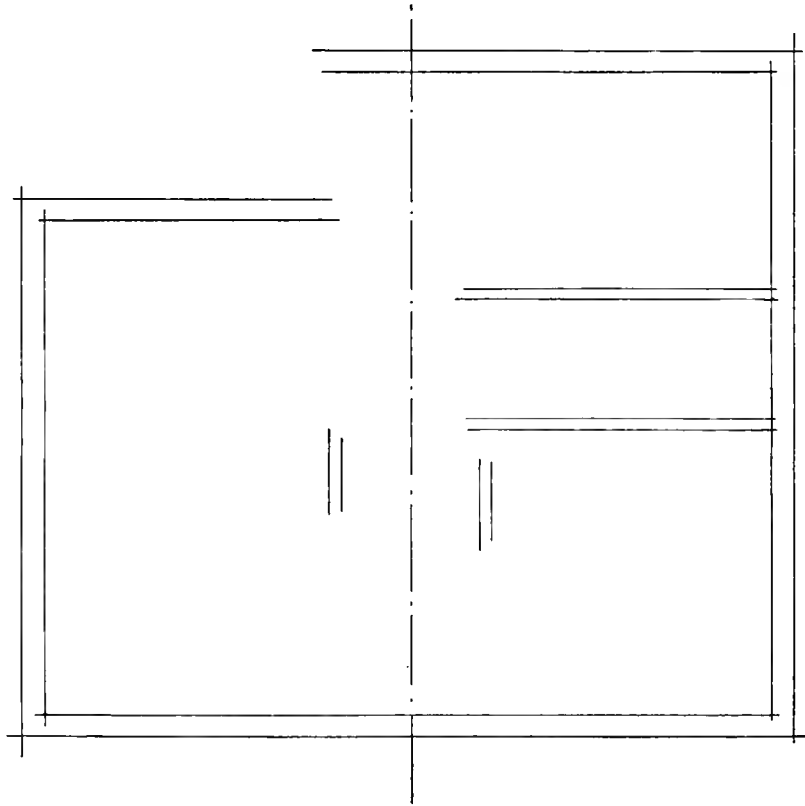
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Plate 2

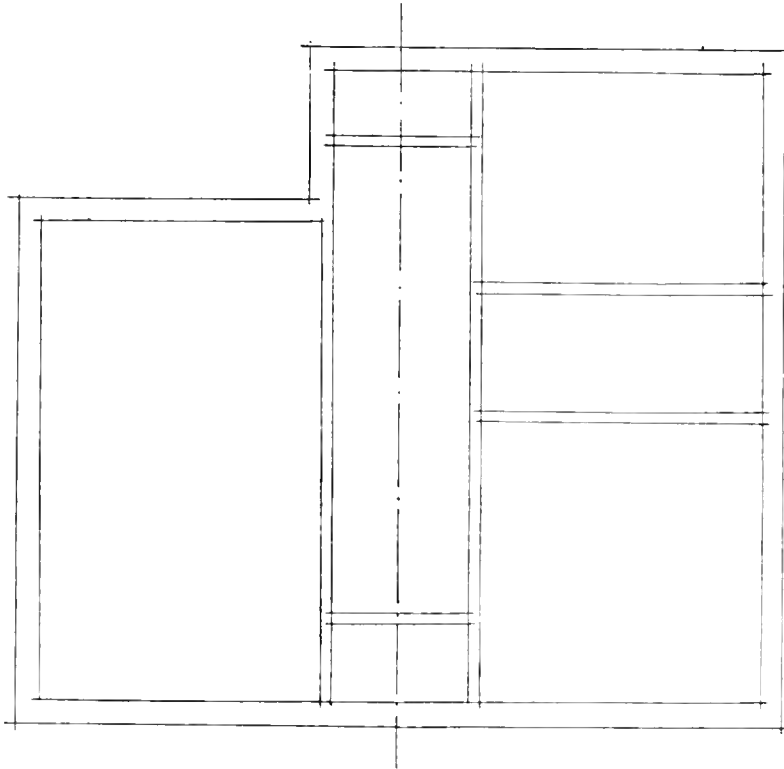
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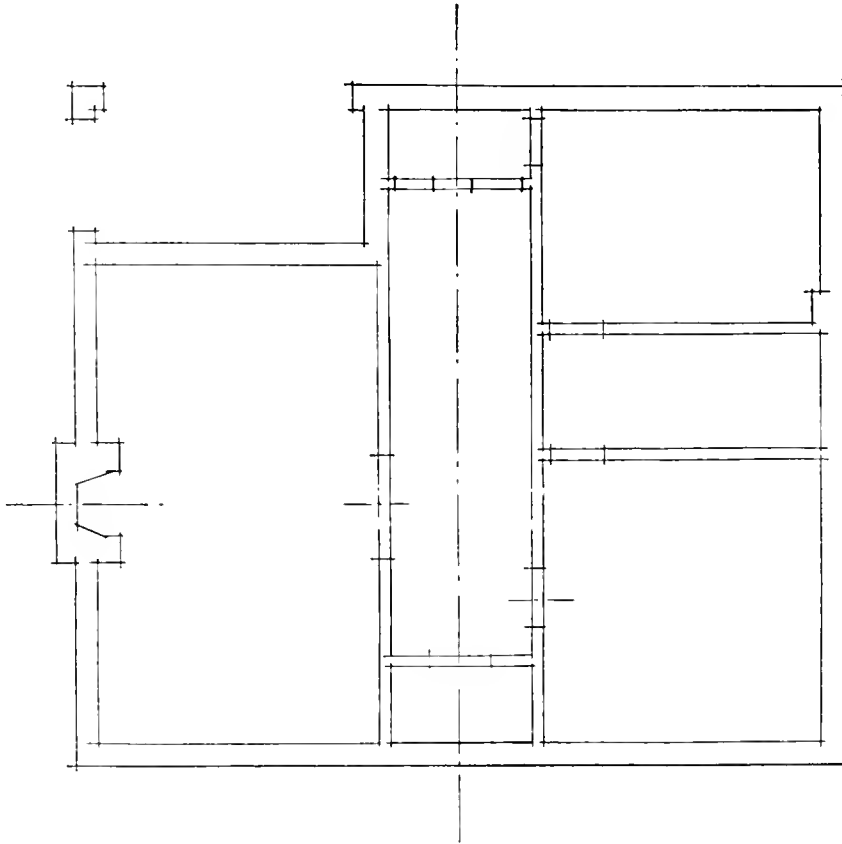
Plate 3

③



CSW

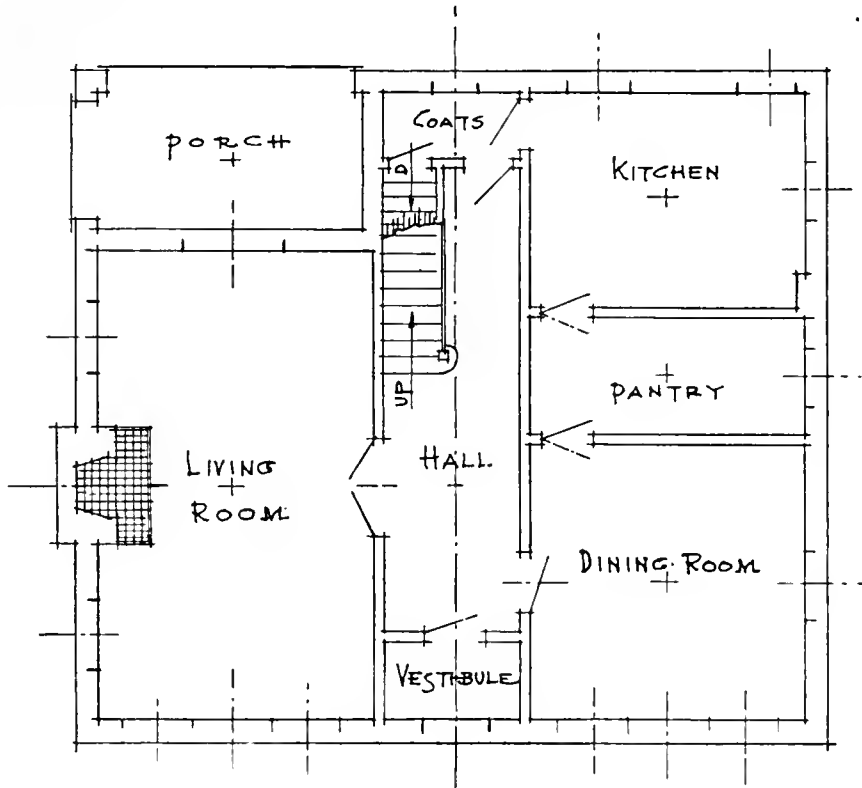
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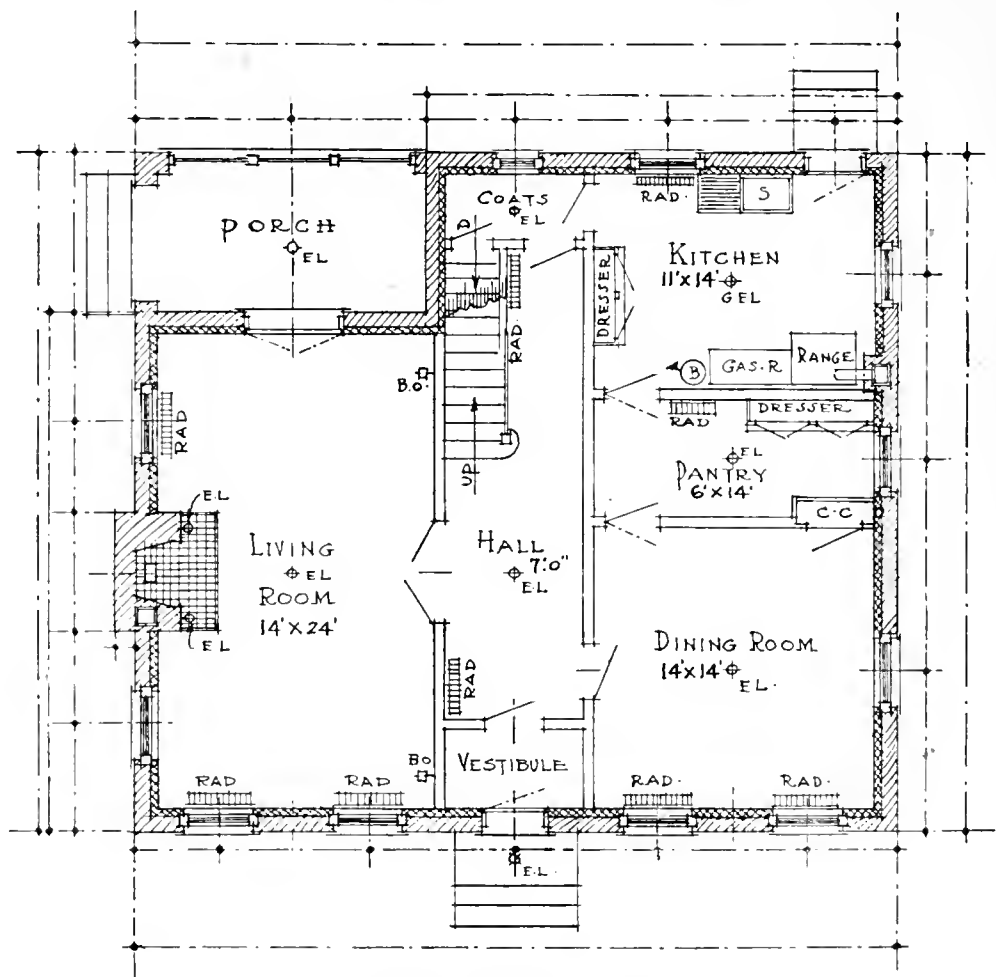
Plate 5

⑤



GWS

⑥



FIRST FLOOR PLAN.  
SCALE  $\frac{1}{8}$  INCH. = ONE FOOT.

INDICATION OF MATERIALS AND NOTES IN REFERENCE TO FLOOR PLANS - THIS SPACE.

HOUSE for Mr. J. E. WEST  
AT GARDEN CITY. L. I. 1900  
NAME of DRAUGHTSMAN  
ARCHITECT (5)

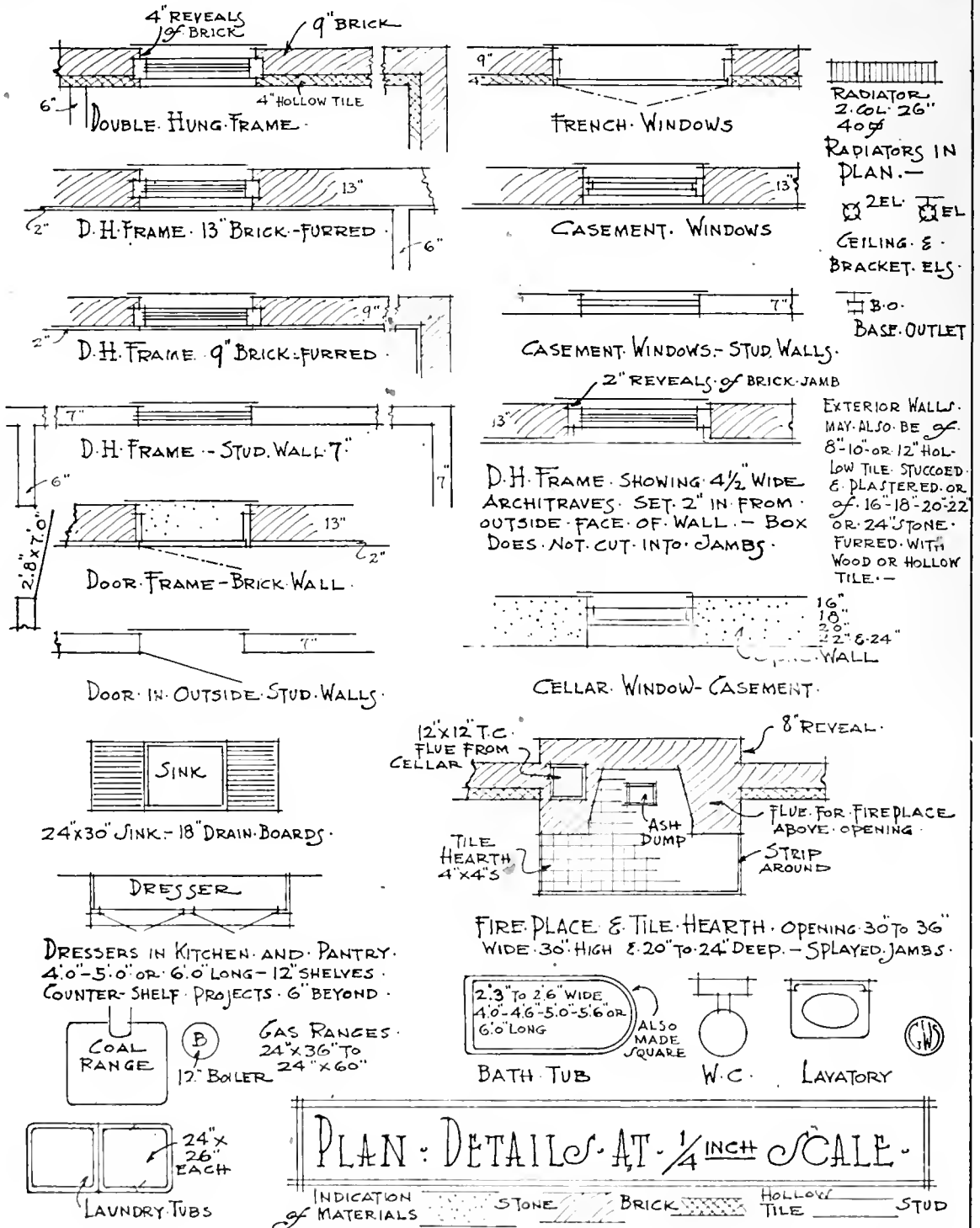


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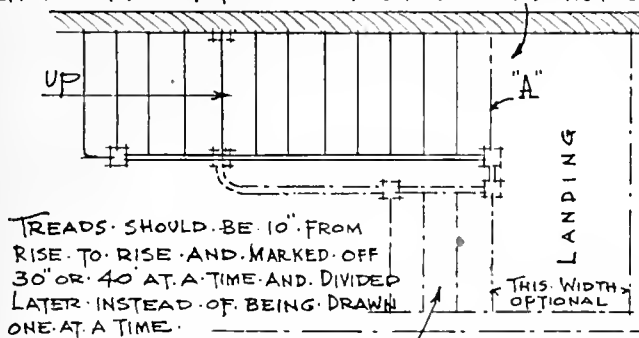
Draw the exterior over-all dimension lines, and also the subordinate dimension lines locating the window and door openings and the projections or breaks in the wall surfaces in the plan. All openings are dimensioned to centers. Use arrow heads or heavy dots for the intersections and ends of dimension lines. Also run a dimension line through the plan in each direction, locating the main partitions of the building; the dimensions being taken between the bare construction of the brick walls and stud surfaces irrespective of furring or plaster. These dimensions determine the size of the rooms, halls, etc.

Letter in the title of the plan, scale, indication of materials, name of owner, and architect's name as indicated. Letter any fixtures requiring it, and also mark the sizes of interior doors.

The drawing is now ready to ink. Follow the rules previously given for the order of inking the lines. Ink in the full lines first. Use light lines for inking the projection and dimension lines, the cross-hatching of the brick and hollow tile, and for the radiators.

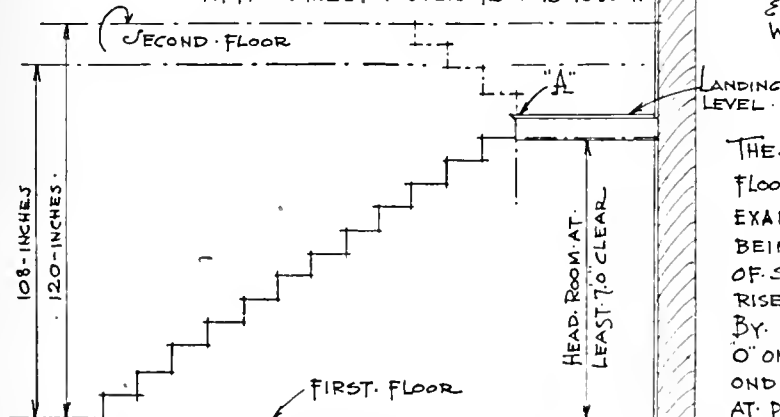


POINT "A" IS FIRST DETERMINED ON PLAN BY MAKING LANDING 3' 6" WIDE. THEN MARK OFF TREADS FROM THIS POINT TO FIRST STEP SUFFICIENT TO GAIN AT LEAST 7' 0" HEAD ROOM BELOW LANDING. - USUALLY REQUIRES 13 RISES.



-PLAN-

FOR CONVENIENCE THE STEPS ABOVE ARE HERE DOTTED. - FIRST STEP UP TO ATTIC DIRECTLY OVER 12 OR 13 R. DOWN



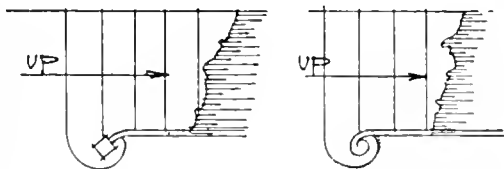
-ELEVATION-

SCALE  $\frac{1}{4}$  INCH = ONE FOOT.

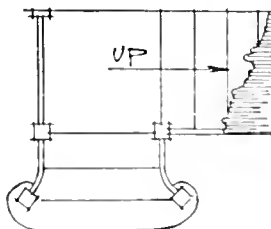
TYPE OF REAR STAIRS.

IN PLAN THE STAIRS BOTH UP AND DOWN SHOULD BE SHOWN WITH FREE-HAND. & SHADE LINES TO INDICATE WHERE CHANGE OF PLAN OCCURS.

THE DIMENSION FROM FLOOR TO FLOOR BEING KNOWN. - IN THIS EXAMPLE 10' 0" - OR 120" - AND IT BEING DESIRED TO HAVE A RISE OF SLIGHTLY OVER 7" - DIVIDING ONE RISE INTO TOTAL WILL GIVE 17 RISES. BY PLACING SCALE OBLIQUELY WITH 0" ON FIRST FLOOR AND 17 ON SECOND - HEIGHTS OF TREADS WILL BE AT POINT INDICATED BY EACH FOOT MARK ON SCALE. - AS THICKNESS OF MATERIALS ON LANDING WOULD BE 8", IT CAN BE SEEN THAT AT LEAST 13 RISES TO LANDING ARE NECESSARY TO SECURE HEAD ROOM.



THREE FORMS OF NEWELS AND EASEMENTS OF STAIRS IN PLAN. -  $\frac{1}{4}$  INCH SCALE



IN WORKING OUT RISE AND TREAD, THE SUM OF ONE RISE & ONE TREAD SHOULD BE FROM 17" TO 18" - OR THE PRODUCT OF MULTIPLYING ONE BY THE OTHER SHOULD BE FROM 70" TO 75" -

▼ METHOD FOR FIGURING & DRAWING STAIRS ▼

## PROGRESSIVE STEPS IN THE DEVELOPMENT OF ELEVATIONS

Carefully study, and refer when necessary, to Plates 16 to 21, inclusive, when drawing elevations at  $\frac{1}{4}$ " scale.

These progressive steps are to be observed and *followed*, not only in this elevation, but in every elevation worked out. The size and details may vary with the design, but the method of constructing the working drawing should always be the same, in order to facilitate the work and get the best results.

(1)—Draw the grade or base line first. Keep the line up high enough on the sheet to allow for the title and lettering below and the entire height of the finished elevation above. Do not start the drawing with roofs or cornices or side lines.

(2)—Draw the lines indicating the main corners of the building. Then draw the height of the water table and mark the story heights at the side of the elevation, and from these story marks draw lines lightly through the building.

(3)—The cornice and roof are then blocked out with light lines. The pitch and shape of the roof are determined by the design and effect desired, and should work out correctly with the width of the side elevation and the height of the ridge line. The positions of the main cornice lines are determined by the construction, as worked out at the plate and the foot of the rafters. Approximately, the top cornice line should be about level with the top of the attic floor joists. The detail lines and the profile of the cornice mouldings, brackets, etc., are to be worked out later. As previously indicated, the roof seldom has less than a 30 degree or more than a 45 degree pitch, if covered with slate or wood shingles. These have a tendency to leak if laid on a pitch of less than 30 degrees. Only the main lines of the cornice should be worked out at this time.

(4)—Get measurements of all vertical lines, such as corners, window and door jambs and centers, chimneys, etc., from the plan, "ticking" them off accurately with a strip of paper. Transfer them to the elevation and draw the side lines of the chimneys and window and door openings. Draw these lines of indefinite length. Draw in the center lines lightly for all openings. These center lines will be found of great help later in working out the details of the windows and doors, and also maintain "balance" in the design and details.

(5)—A projecting band of brick, which is optional, is shown at the second floor level. Draw the heads and sills of the window and door openings. The heights of these are determined by the design and effect desired. The sills are approximately 2'-3" from the floor line to the top of the outside sill. The heights

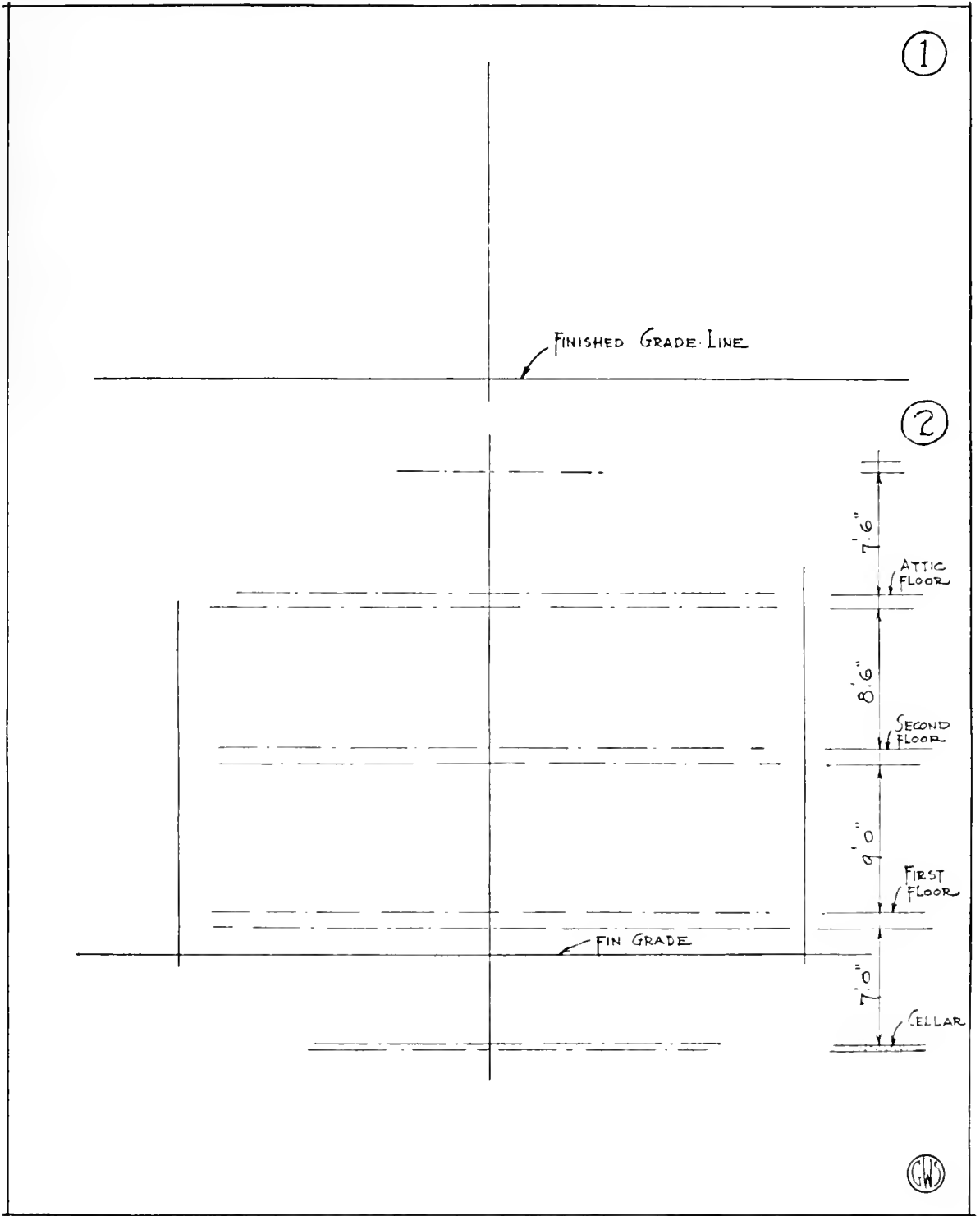
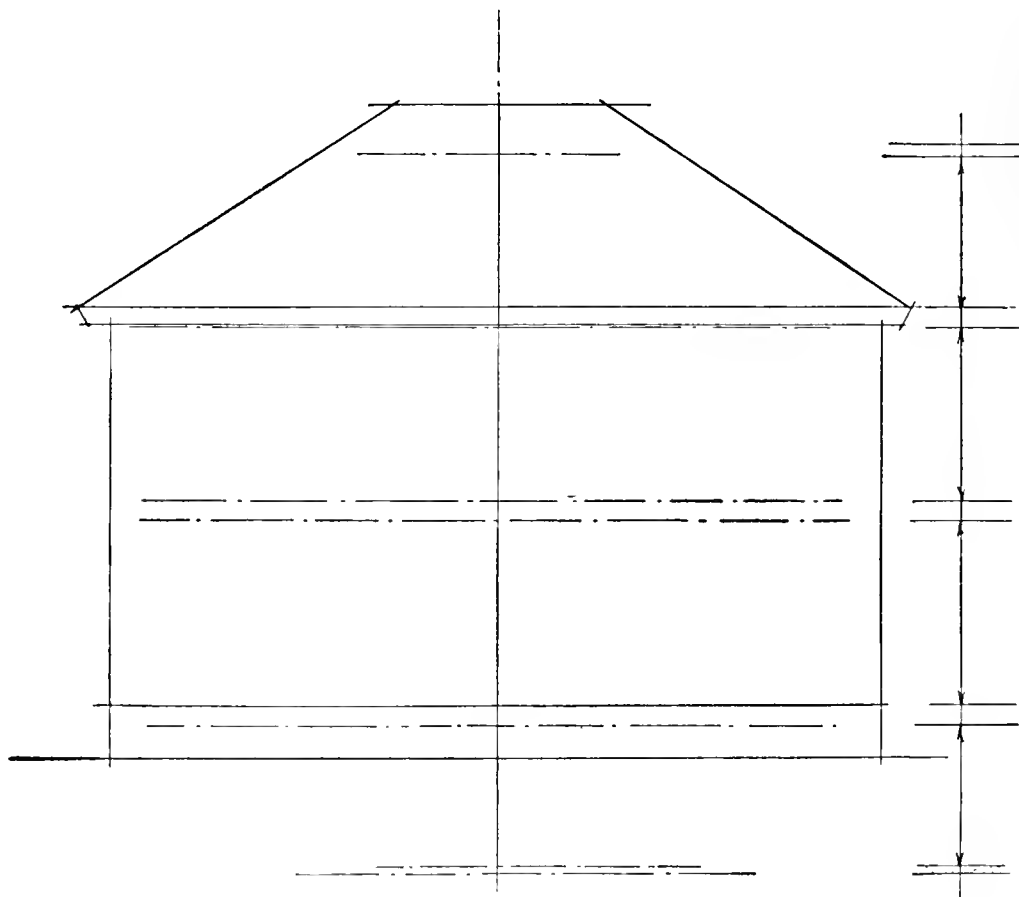


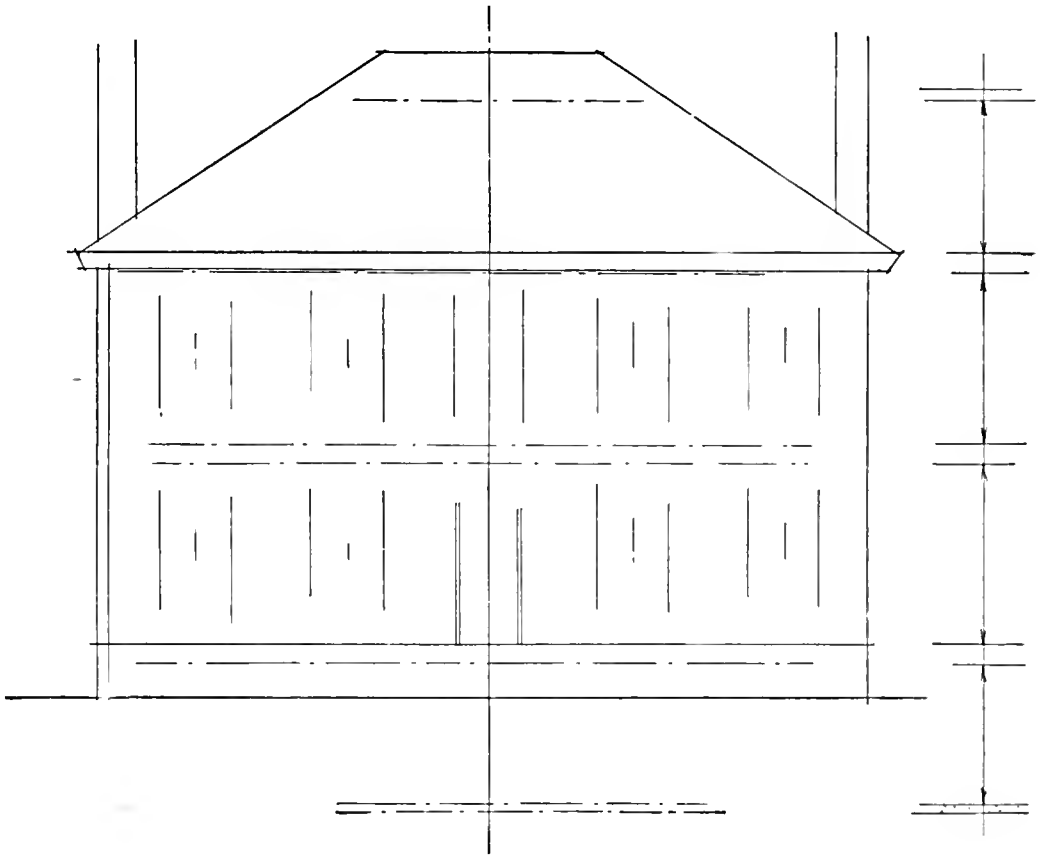
Plate 10

③



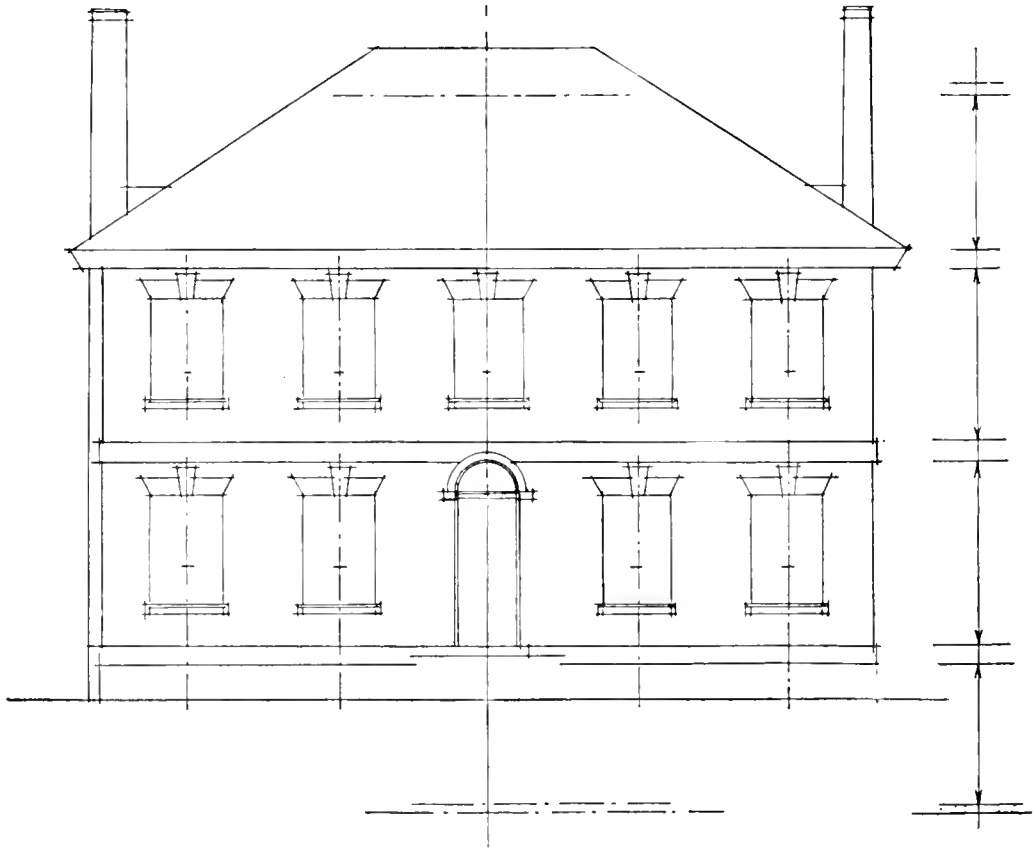
CWS

4



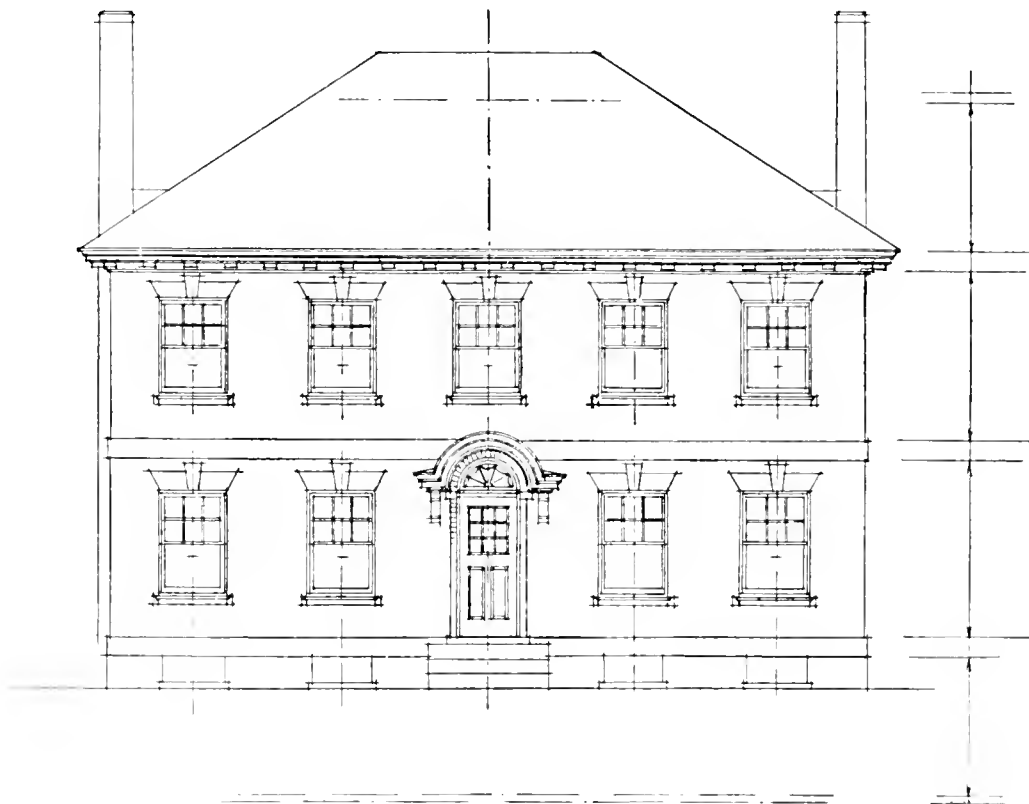
CWS

⑤

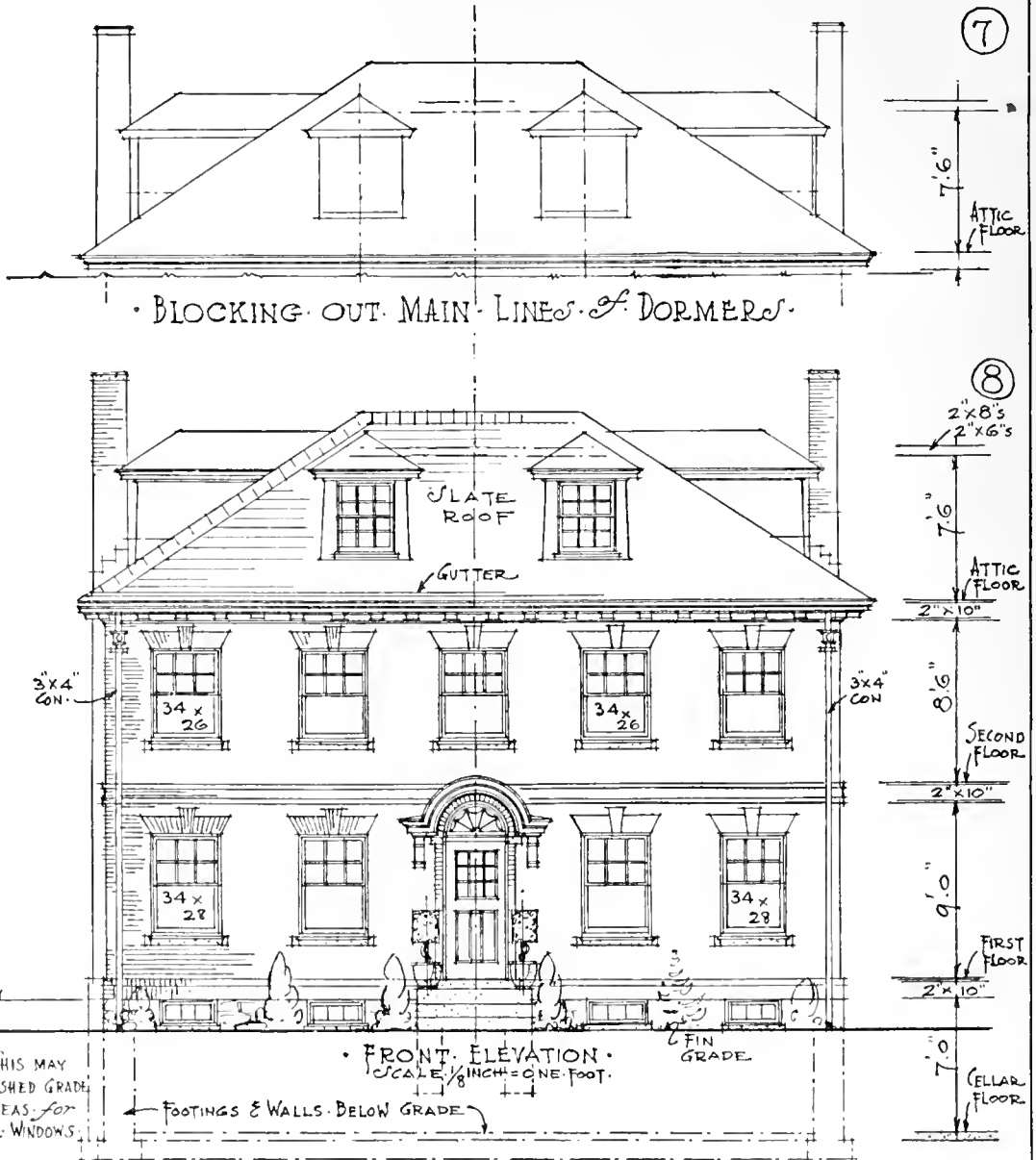


CWS

6



GW



of openings of the windows should approximate 5'-6" for the first story, and 5'-0" for the second story, though these dimensions may vary slightly. Draw in the details of the window heads, using Plate 18 for reference. In this example 10" or 12" ground brick flat arches and key stones  $2\frac{1}{2}$ " or 5" higher, are used. The method of getting the radius centers is also shown on Plate 18. Indicate whether the chimney caps are of stone, brick or terra-cotta. They should be shown as uniformly as possible. Draw the gusset boards where the chimneys and roof intersect.

(6)—Draw the cornice profiles and moulding lines clearly, according to the particular style of cornice determined upon, and draw the modillions or brackets. These are from 16" to 24" or more on centers, usually 24", with the end modillion center line coming on the corner wall-line. The spaces, center to center, may have to be adjusted to divide the length evenly. Draw the bed mould below the modillions. Cornice profiles and details are shown on Plates 16 and 17.

The lines of window frames, sash and muntins are next drawn, and the door head and door worked out according to design. When used in masonry walls, the usual thickness or "reveal" of a door frame or window frame is 2" from the side face of the opening. The sash shows an additional 2" at the side. A single line at  $\frac{1}{4}$ " scale indicates each of these surfaces. Draw the wood sill 2" (double line to show wash), the lower sash rail 3", and meeting rail and muntins 1" in width. Any peculiarity of design in frames and sash will have to be specially detailed.

(7)—The dormer windows should now be blocked out with side lines and the roof and cornice lines, all of which should be of a size and shape to be in harmony with the plan, and in correct proportion and style to harmonize with the elevations. Draw the side elevations of the dormers which front on the side elevation of the house, carrying the cornice lines, etc., across from the front. The bottom or sill line is regulated in height by the point where the front face of the dormer strikes the sloping roof in the side view. Consult Plate 19.

(8)—Draw the mouldings and modillions or brackets of the dormers and cornice. The frame, sash, and the muntin lines are then drawn for the dormer windows. Draw the cellar window frames and sash. Brick lines and stone indication may now be put in, but sparingly and well placed.

All descriptive lines of the elevation have now been completed. Such notes as are necessary should be neatly and carefully lettered, the lettering to be in proportion, uniform in height and style, and placed on the drawing in positions to look well. Make note of the brick and stone, frame, slate, shingle or tin roofs, hanging or box gutters and conductors, size of glass, and grade and floor lines. Repeat the notes only where necessary.

## VARIATIONS IN PLANS AND ELEVATIONS

To simplify the explanation, the plan and elevation have been shown as direct and simple as possible. Certain variations in both plan and elevation might be suggested as adding interest to the problem. For example, in the plan a rear stair may be added by enlarging the area of the plan, and the pantry might possibly be rearranged in such a way as to get a coat closet from the hall by placing the passage doors to the kitchen near the outside wall. This would reverse the location of the china closet, and also require a change in the location of the kitchen range and chimney. An entry with a cold closet and space for a refrigerator might also be added to the kitchen.

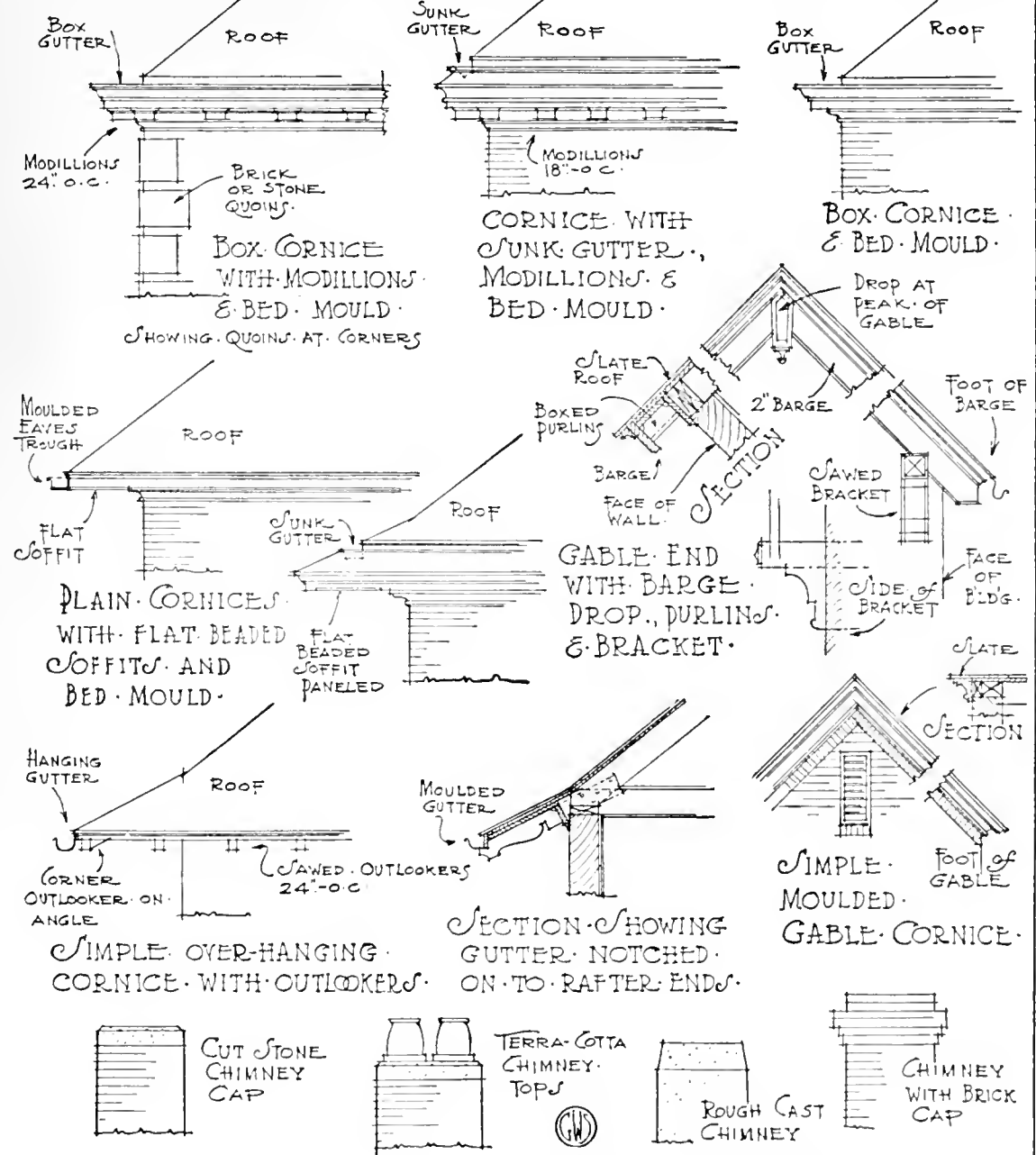
These are, however, details which may be incorporated in the plan at the option of the draughtsman or may be made necessary by the requirements of the client.

The porch, or an open terrace, may be located at the side of the house instead of at the rear, with French windows leading to it from the living-room. The fireplace may perhaps be at the end rather than at the side of the living-room, with built-in bookcases and windows over them, at either side. This location for the chimney would not look so well on the elevation as it is in the position shown.

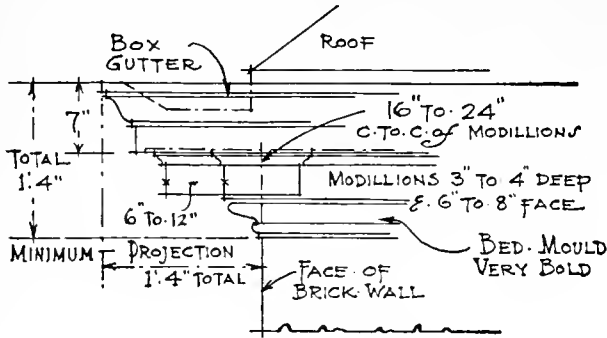
In the elevation, the front entrance door and the dormer windows could have variations. For instance, the door might have a pilastered and columned entrance, with either a pediment head, or a frieze and cornice with a wrought iron railing over it. The dormers might be made with a pediment, or a segment head. The main roof might be gabled at the ends, with either a wood cornice, or a brick parapet with a cut stone coping on the rake, instead of the hip roof as shown.

The height of the chimneys should be either level with the ridge of the roof, or slightly above that. The living-room chimney at the side should be stepped back with weatherings of stone, and the location of the side dormer arranged to allow as much space as possible between the dormer cornice and the chimney.

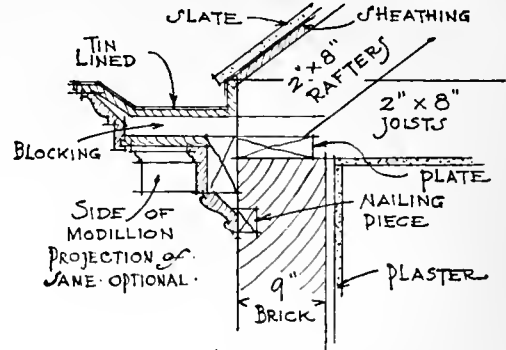
NOTE: The CORNICES SHOWN TO BE USED ALSO ON GAMBREL ROOFS & GABLE ENDS.



$\nabla \frac{1}{4}$  INCH SCALE ELEVATIONS OF CORNICES & CHIMNEYS

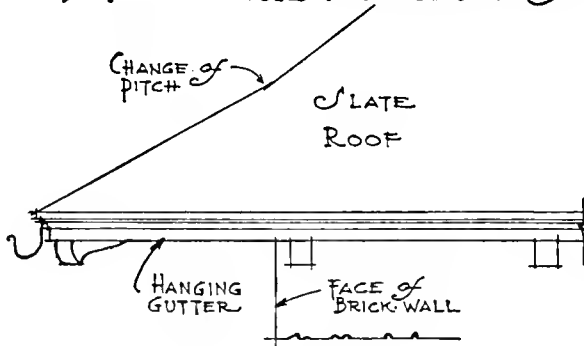


- ELEVATION -

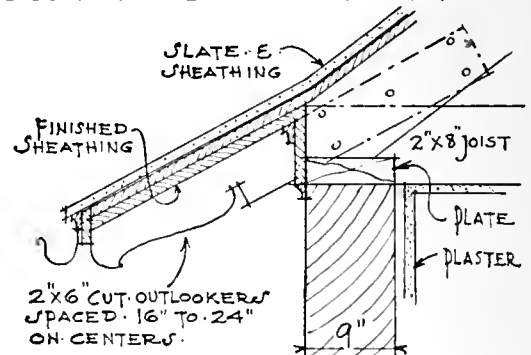


- SECTION -

$\frac{3}{4}$ " INCH SCALE DETAILS OF TYPICAL BOX CORNICE

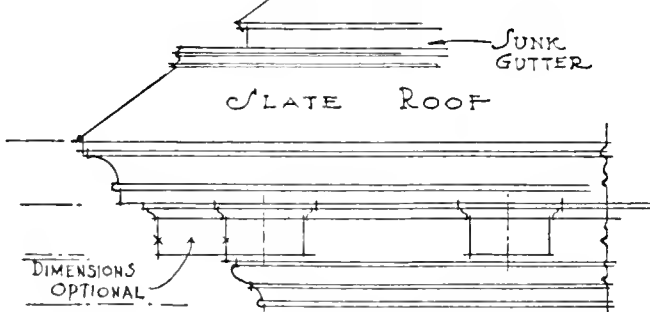


- ELEVATION -

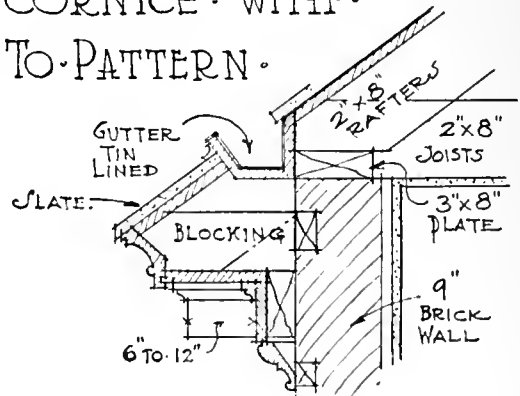


- SECTION -

$\frac{3}{4}$ " INCH SCALE DETAILS OF CORNICE WITH SHOW RAFTERS SAWED TO PATTERN



- ELEVATION -



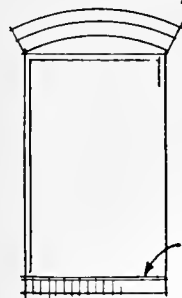
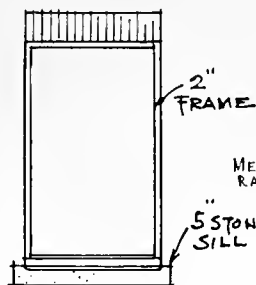
- SECTION -

CORNICE DETAILS

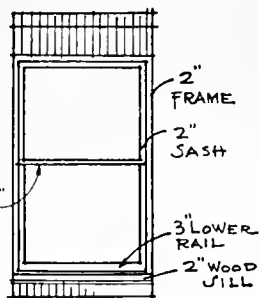
CORNICE WITH SUNK GUTTER  $\frac{3}{4}$ " INCH SCALE



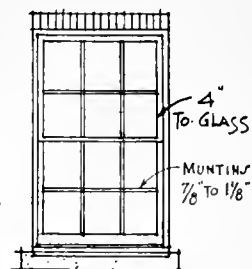
SHOWING PROGRESSIVE STEPS IN DRAWING FRAME, SASH, AND MUNTINS.

MOCK  
SEGMENT

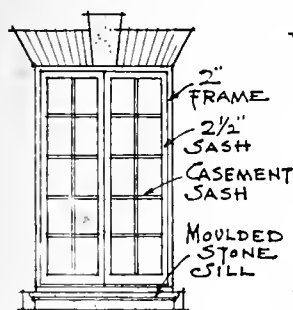
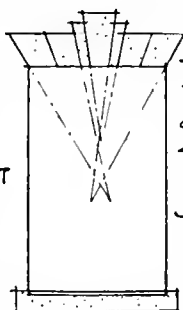
8" ROW LOCK HEAD



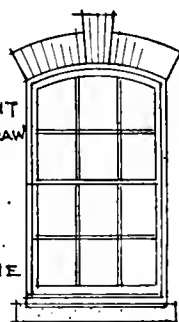
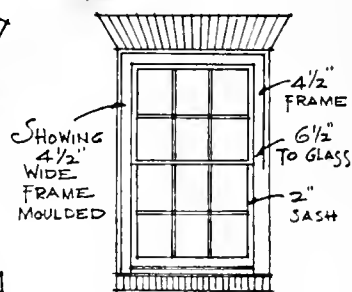
8" AND 4" ROW LOCK



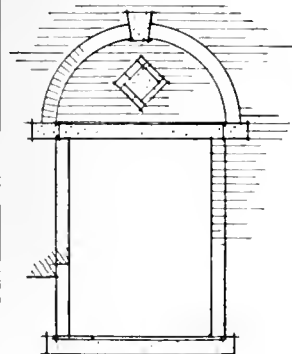
4" ROW LOCK

GROUND ARCH  
& STONE KEYSTONE FLAT ARCH  
HEAD & KEY

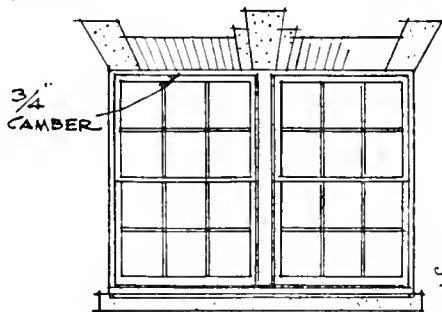
TO LOCATE  
RADIUS POINT  
OF ARCH - DRAW  
45 DEGREE  
LINE FROM  
CORNER TO  
SIDE AND  
PROJECT TO  
CENTER LINE

TRUE SEGMENT  
HEAD

GROUND FLAT ARCH

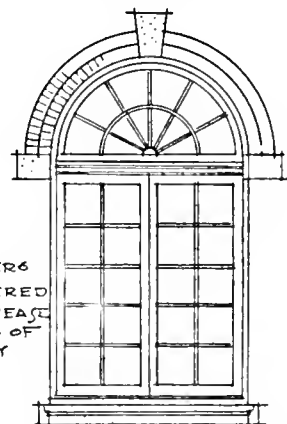
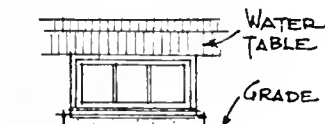


4" SEMI-CIRCULAR ARCH



WIDE DOUBLE WINDOWS

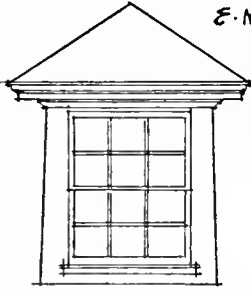
WITH GROUND BRICK FLAT  
ARCH - KEY STONE & SKEW BLOCKS -  
CAMBER & ANGLES ADVISABLE  
FOR WIDE OPENINGS.

CIRCULAR HEAD WINDOW  
WITH CASEMENT SASH  
& FIXED TRANSOM OVER

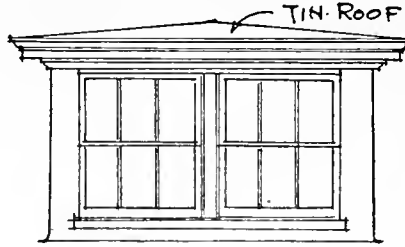
CELLAR WINDOW

1/4" INCH SCALE ELEVATIONS OF  
MASONRY WINDOW HEADS & SILLS

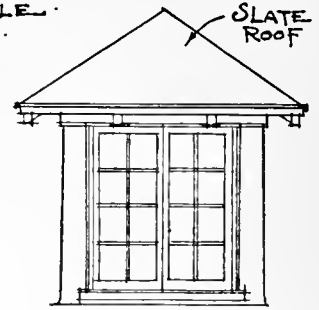
· SIDE ELEVATIONS TO BE EXACT PROFILE ·  
· E. MOULDINGS RUN BACK TO MAIN ROOF ·



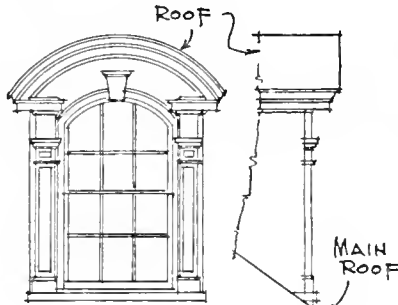
HIP ROOF DORMER  
BOX CORNICE



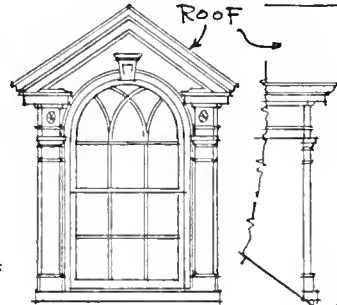
FLAT ROOF DORMER  
WITH DOUBLE WINDOWS



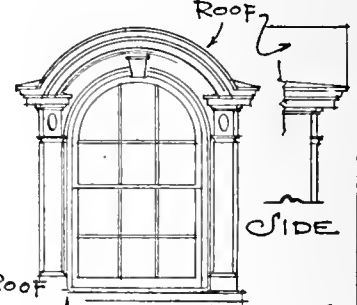
HIP ROOF DORMER  
CUT SHOW RAFTERS



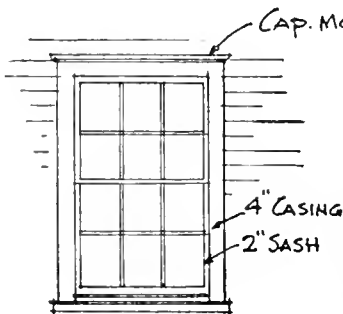
SEGMENT HEAD DORMER (SIDE)



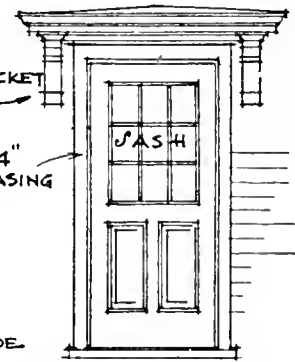
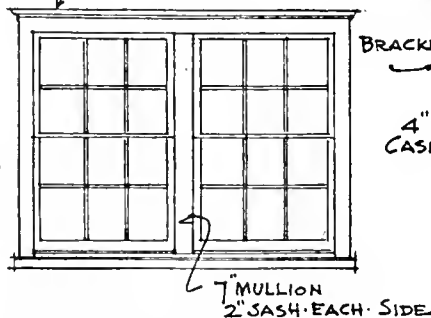
DORMER WITH GABLE HEAD (SIDE)



ANOTHER FORM OF  
SEGMENT HEAD

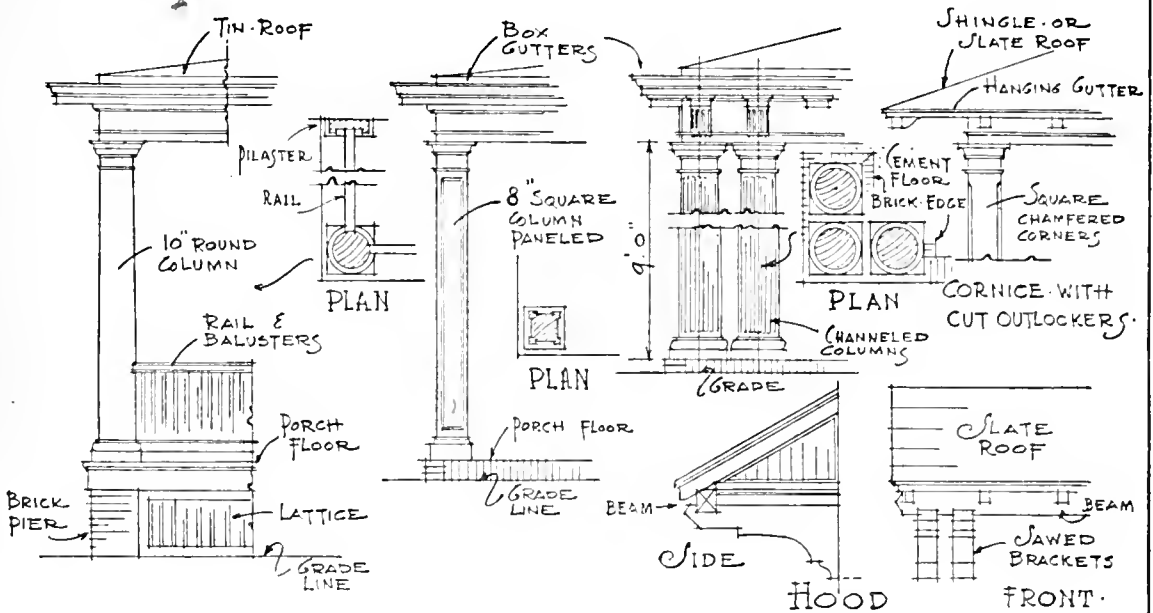


SINGLE & DOUBLE D.H. WINDOWS IN  
FRAME WALL

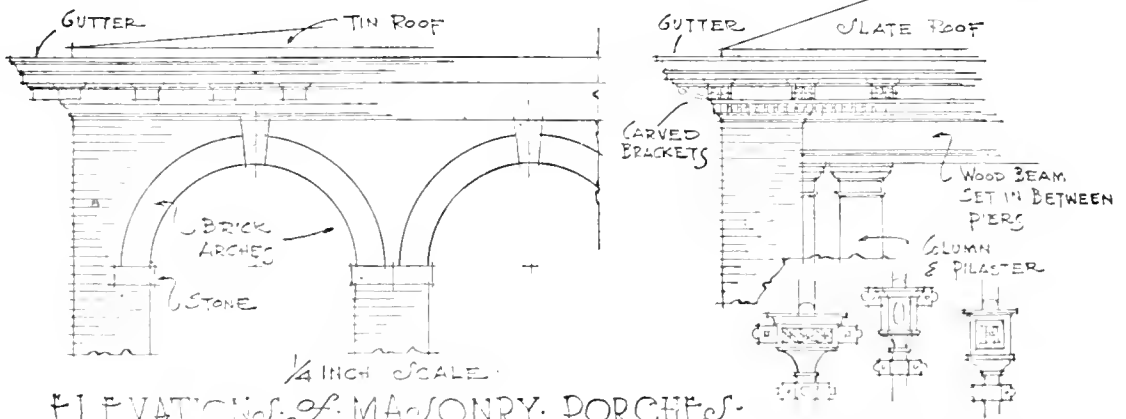


DOOR & HOOD  
IN FRAME WALL

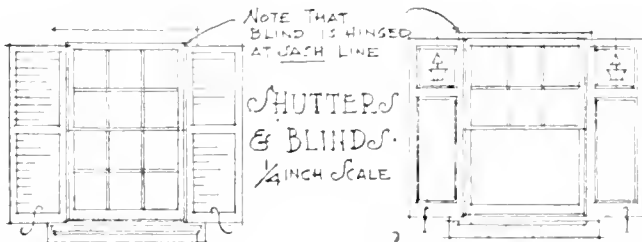
1/4 INCH SCALE ELEVATIONS OF DORMERS ETC.



$\frac{1}{4}$  INCH SCALE. ELEVATIONS OF VARIOUS PORCH COLUMNS & CORNICES ETC. OF WOOD.



$\frac{1}{4}$  INCH SCALE. ELEVATIONS OF MASONRY PORCHES.



BLINDS OF  $4\frac{1}{2}$ " & SHUTTERS OF 2" REVEAL OF FRAMES.

CONDUCTOR HEADS.  $\frac{1}{4}$  INCH SCALE.

MISCELLANEOUS  
EXTERIOR  
DETAILS



## PROGRESSIVE STEPS IN THE DRAWING OF CORNICES ON ONE- QUARTER INCH SCALE ELEVATIONS

(1)—Draw the line indicating the main corner of the building.

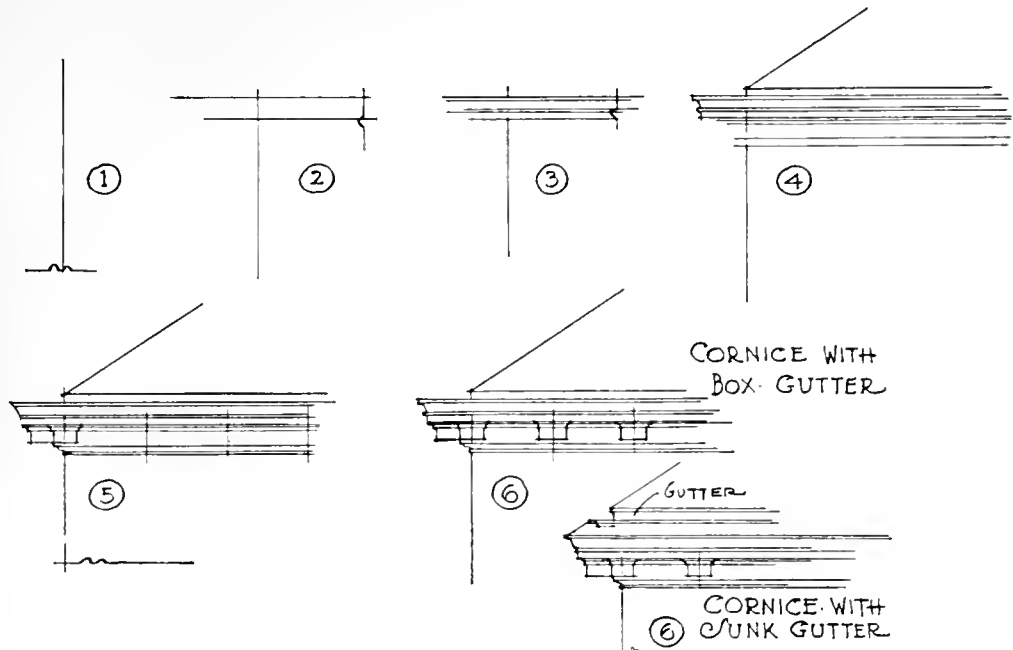
(2)—Draw the top and bottom lines of the cornice proper, the height of which is determined in working out the details at the plate and foot of the rafter. The depth of this cornice in a house of ordinary size should be about 6" or 7".

(3)—Draw the lines indicating the mouldings in the cornice proper. The exact position of these lines is determined by the draughtsman's knowledge of the profile desired for the cornice.

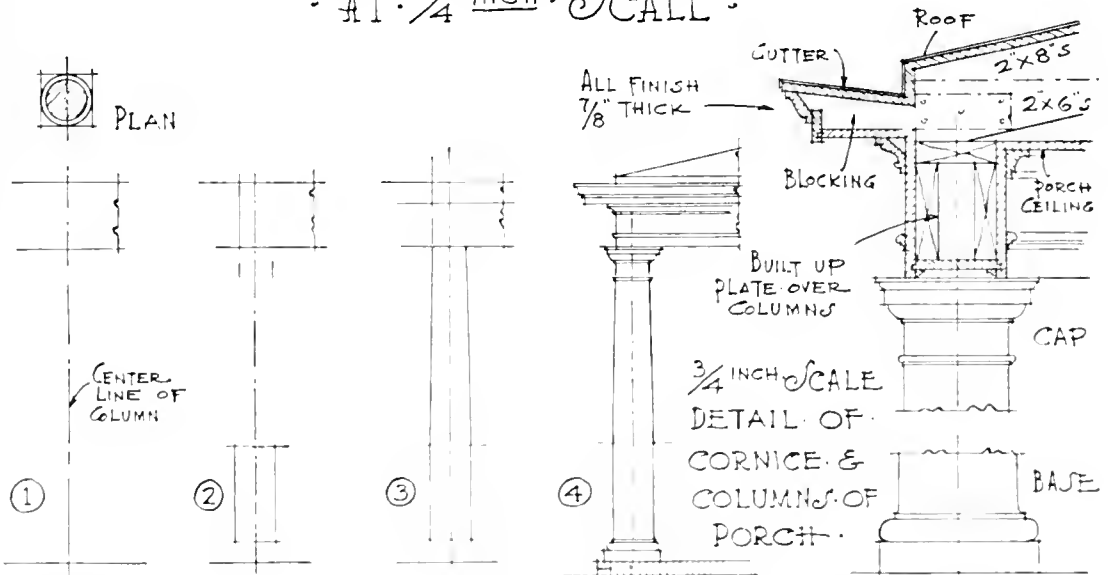
(4)—Draw the profile clearly and the lines indicating the bed mould and fascia at the back of the modillions. These are determined by the draughtsman's knowledge of proportion in cornice work.

(5)—The end modillion on the front elevation and the side of the first modillion on the side elevation should be drawn. Draw the profiles of the bed mould. The center line of the end modillion is approximately on an axis with the corner line of the building. Draw center lines for all modillions, approximately 24" on centers. If these do not space evenly, the distance from center to center should be adjusted so that they will. The uniform distance between centers may vary with the design.

(6)—Draw all side lines of the modillions, and then lines indicating the bottoms of them. Draw in the lines indicating the profile of the moulding at the intersection of the same with the under side of the cornice. When the members of mouldings are very small the profile is indicated by a line showing the general shape of the moulding.



STEPS TAKEN IN DRAWING MAIN CORNICES.  
- AT  $\frac{1}{4}$  INCH SCALE -



DRAWING PORCH CORNICE & COLUMNS.  
- AT  $\frac{1}{4}$  INCH SCALE -



## PROGRESSIVE STEPS IN THE DRAWING OF PORCH CORNICES AND COLUMNS AT ONE-QUARTER INCH SCALE

(1)—From the plan “tick off” accurately with a strip of paper the corners of the building and the center lines of all columns. Then draw the center lines in their correct locations, Plate 21.

(2)—Indicate the width of the column according to the desired proportions. Also indicate the top and bottom lines of the entablature over the column. The dimensions are determined by the draughtsman's knowledge of the height the column and entablature should be to have the proper proportions, and also by requirements of location, etc.

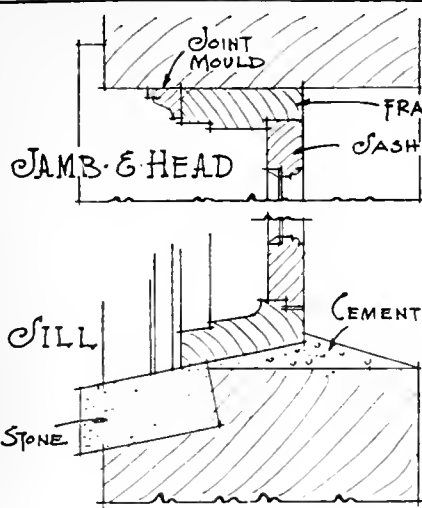
Draw lines indicating the frieze of the cornice. These should come directly over the necks of the columns. Draw in the line indicating the height of the base (one-half of the diameter of the column), and another line at one-third of the height of the column which is where the entasis begins.

(3)—One-third of the column is drawn straight, and the lines from this point to the cap have a gradual taper or entasis. The width at the neck should be five-sixths of the width at the base. This entasis is drawn properly by starting with the pencil point close to the edge of the triangle, then gradually sloping the pencil so the line will extend beyond the edge of the triangle at the center, and gradually returning to the edge as the other end is reached. This produces a very slight curve, which forms a true outline of the upper two-thirds of the column. The point should be very sharp, and the entasis drawn accurately in regard to width and balance. Draw a line indicating the depth of the cornice proper, the location of which is determined by the draughtsman's knowledge of proportion. The depth of this cornice would be approximately 5" or 6".

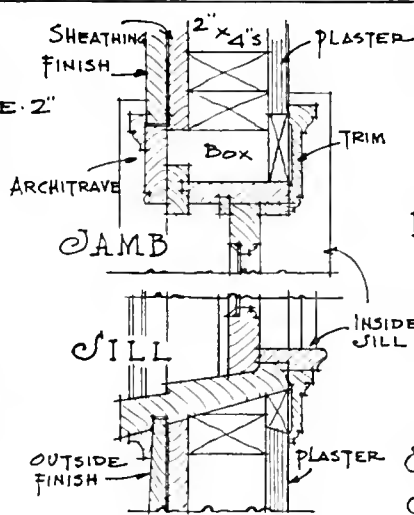
(4)—A line should be drawn indicating the roof and gutter. The profile lines of the cornice mouldings, and cap, necking, and base of the column should be carefully drawn.

A thorough study of the orders of architecture, and of the mouldings and fascias in connection with cornices is imperative before the draughtsman can expect to draw these profiles with any degree of spirit and certainty.

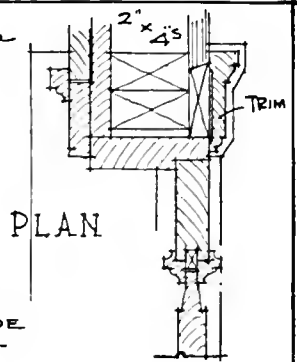
For further study and reference consult Plates 16, 17, 20, 25, 26, 31, 32, 33 and 34.



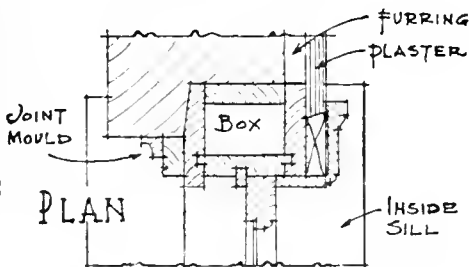
CELLAR WINDOW IN 16" STONE WALL.



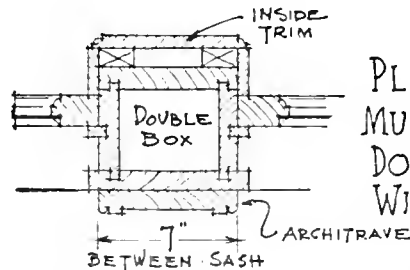
D. H. WINDOW FRAME IN 7" STUD WALL.



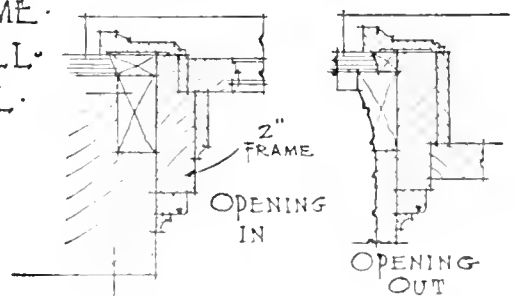
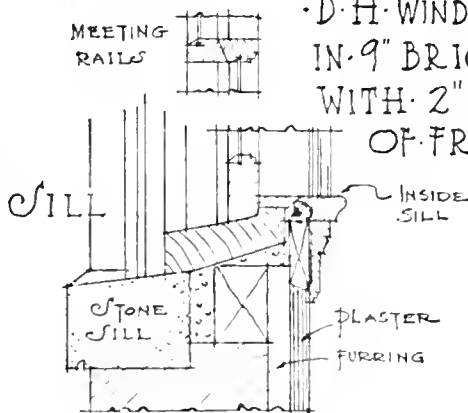
DOOR FRAME & DOOR IN 7" STUD WALL.



D. H. WINDOW FRAME IN 9" BRICK WALL WITH 2" REVEAL OF FRAME.

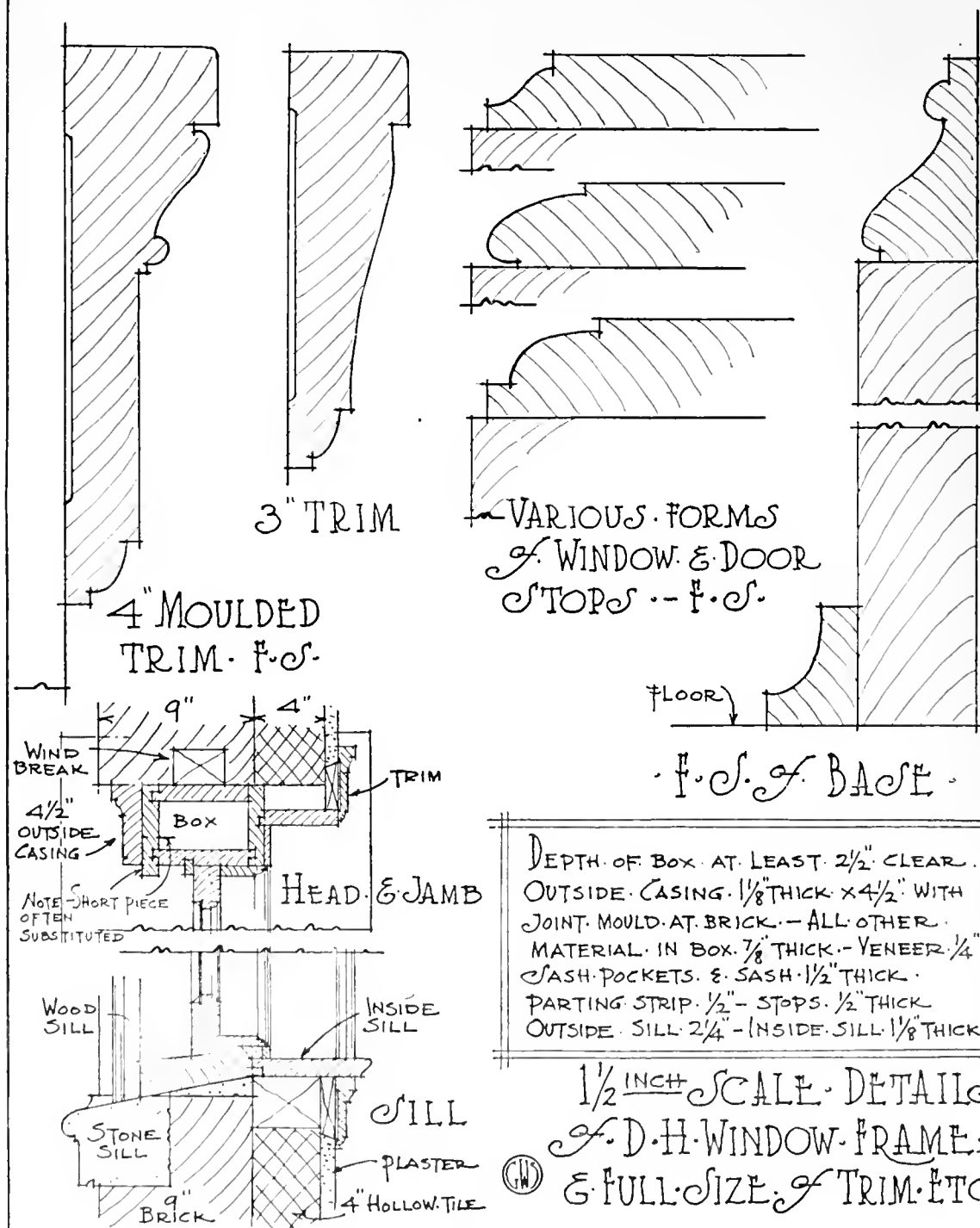


PLAN OF MULLION FOR DOUBLE D. H. WINDOWS.



PLAN OF CASEMENT WINDOWS, FRENCH WINDOWS & DOORS IN MASONRY WALLS.

1 1/2" INCH SCALE DETAILS OF WINDOW & DOOR FRAMES



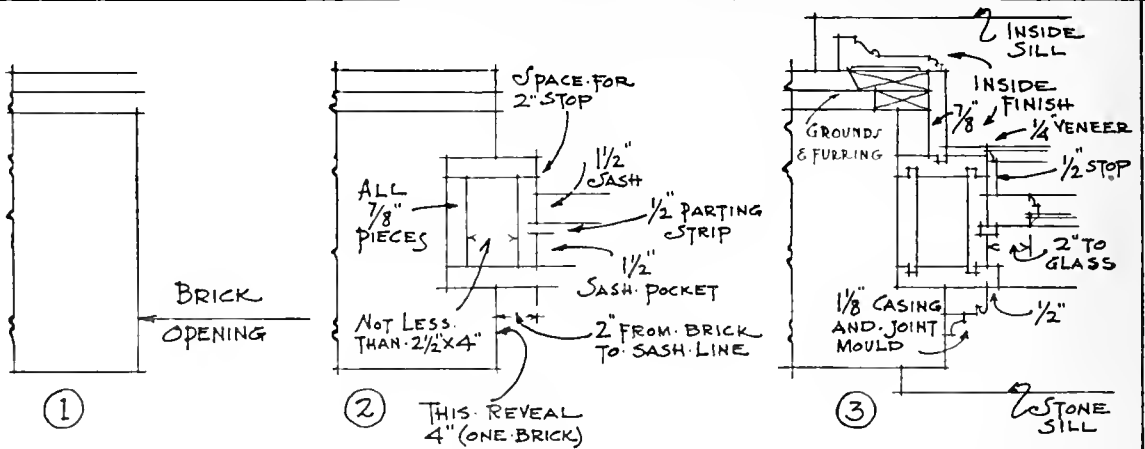
## PROGRESSIVE STEPS IN DRAWING DETAILS OF DOUBLE-HUNG WINDOW FRAMES AT SCALE OR FULL SIZE

(1)—The width of the wall at the jamb is first indicated; and furring and plaster lines are shown, Plate 24.

(2)—The main lay-out of the window-box is drawn. All material should be  $\frac{7}{8}$ " thick except the outside casing, which is  $1\frac{1}{8}$ " and formed to receive the shutter. The 2" reveal of the frame set in the brick wall is shown. The outside lining sets back 4" from the face of the wall and the  $1\frac{1}{8}$ " outside casing and joint mould are nailed to the outside of the frame. The outside face of the pulley stile should be shown 2" from the brick jamb, and the depth inside the box is about  $2\frac{1}{2}$ " so the weights can work freely. With the pulley stile and back lining each  $\frac{7}{8}$ ", the complete depth of the box can easily be determined. The width of the box is ascertained by: the thickness of the sash, which regulate the sash pockets (in the example shown on Plate 24 this dimension is  $1\frac{1}{2}$ ") ; the width taken up by the parting strip ( $\frac{1}{2}$ ") ; and the width necessary for the stop bead which keeps the lower sash in place. This stop can be made as small as 1", but its usual width is 2" or more. The latter size gives better fastening space for curtains, shades, etc. The thickness of the stop is usually  $\frac{1}{2}$ ", thus making the face of the outside lining, the parting strip, and the window stop all on a line, each projecting as it does  $\frac{1}{2}$ " beyond the face of the pulley stile.

(3)—The inside finish and mouldings are drawn, and the sash shown in the inside sash pocket. The dimension from the face of the pulley stile to the glass is usually 2", and the thickness of the moulding and the putty holding the glass in place is  $\frac{3}{8}$ " or  $\frac{1}{2}$ ". The inside jamb casing is shown  $\frac{7}{8}$ " thick and the veneer  $\frac{1}{4}$ ". The window stop should cover the joint of the veneer; and the inside architrave or trim should cover the joint made by the jamb casing. In 9" brick walls the inside jamb casing and the veneer are usually omitted for lack of space; and the window stop and trim should overlap, or a small strip of veneer be inserted to cover the joint. In the best work a ground should be set to come flush with the face of plaster, to act as a level and provide for the secure nailing of the trim.

In the steps taken in drawing the section through the sill, it will be noticed that the detail of the plan of the window frame is so placed on the drawing that the members may easily be projected to the section detail of the sill. The same method of procedure is used as in drawing the plan detail, the width of the wall and the section through the masonry sill being drawn in first. The outside wood sill

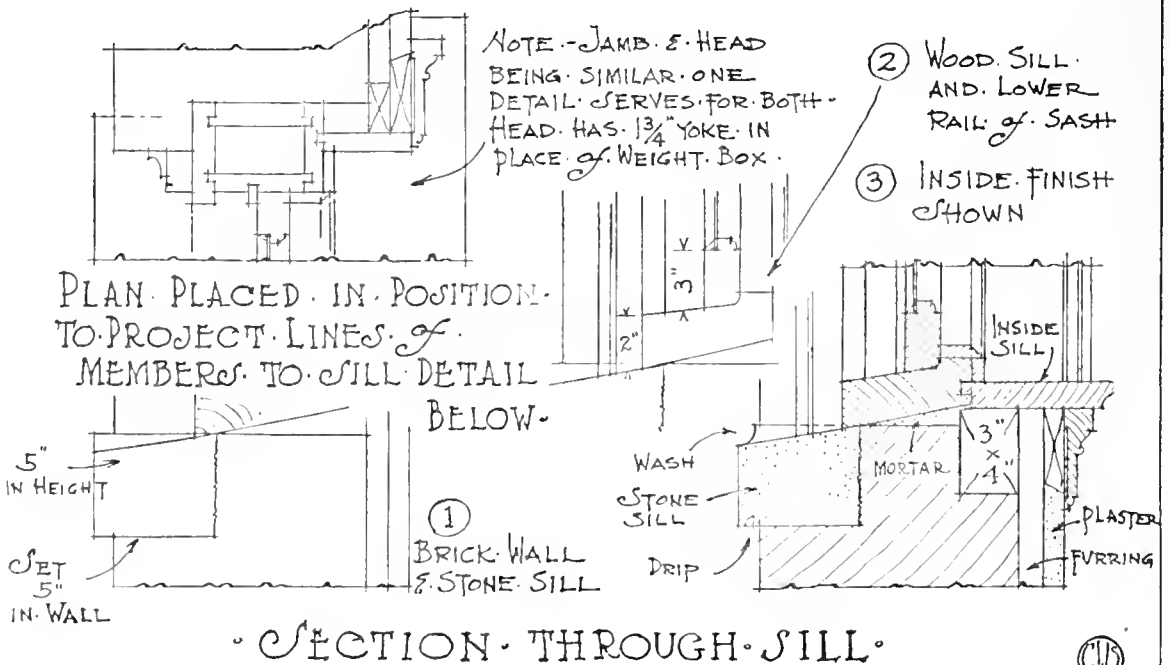


CONDITIONS TO WORK  
TO.—13" BRICK WALL.  
1" FURRING,  $\frac{7}{8}$ " PLASTER

WINDOW FRAME &  
WEIGHT BOX BLOCKED  
OUT IN PLAN.

INSIDE AND  
OUTSIDE FINISH  
& SASH SHOWN.  
DETAIL COMPLETE.

## PROGRESSIVE STEPS IN DETAILING A D.H. WINDOW FRAME IN MASONRY WALL



SECTION THROUGH SILL



should be from  $1\frac{3}{4}$ " to  $2\frac{1}{4}$ " in thickness, and set on a pitch to make it more water-tight. Sometimes the sill has the upper surface rabbeted to receive the screen. It will also be noticed that the lower surface is shown at a greater angle of pitch than the upper, thus securing a maximum thickness of the sill for the amount of material used. The back of the sill is rabbeted to receive the inside wood sill or stool. The sill is cut to a sharp wash where it meets the lower rail of the sash.

The window stop and veneer are shown to conform to the plan, and the inside sill, usually of  $1\frac{1}{8}$ " material, projects with a moulded nosing far enough to cover the apron or trim below. The lower rail of the sash is usually shown 3" wide from the sill to the glass. The projection of the masonry sill beyond the wall is about 1". Furring, plaster, and ground are in the same relation as shown on the plan.

Where a wide outside architrave is used in place of the 2" reveal of frame as here shown, the back lining of the box sets flush with the opening instead of being recessed. The frame should have a 2" x 3" piece nailed to sides and top to form a wind-break and anchor. The frame should also be set nearer the face of the wall, bringing the joint moulding forward so as to show about 1" of brickwork in the jambs. See illustration on Plate 23.

In stud walls omit the inside veneer and jamb casing, and have the outside architrave flush with the outside finish of the building. Also omit the back lining, as the stud forms the back of the weight box. For further study and reference consult Plates 22 and 23.

## PROGRESSIVE STEPS IN THE DRAWING OF THREE-QUARTER AND FULL SIZE DETAILS

In the working out of a detail of any part of the building, the draughtsman must first ascertain the conditions or limitations to "work to." Indicate these correctly and then proceed with the drawing.

In the example, Plate 25, in drawing a detail of the main cornice, the wall plate is set above the attic floor joists to gain height in the attic. The height of the plate should always be determined in relation to the attic floor line as shown on  $\frac{1}{4}$ " scale elevations. Often for economy in construction, and to have a low cornice line in elevation, both the rafters and attic floor joists rest on the wall plate, as shown on Plate 17.

The steps taken in drawing the cornice detail may be described as follows:

(1)—Draw the top of the brick wall, either 9" or 13" thick.

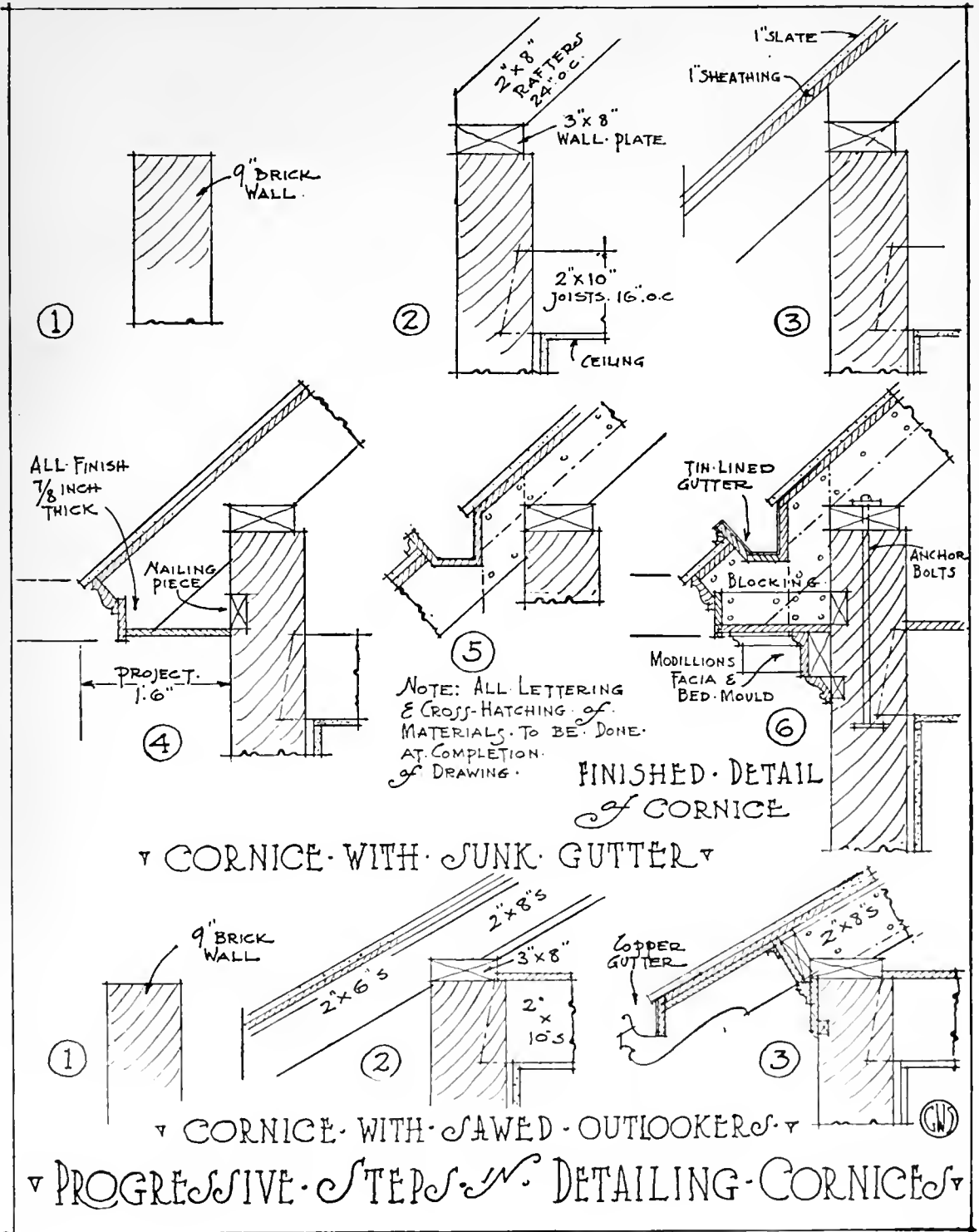
(2)—Draw the plate and rafter foot, with the correct roof pitch, and locate the attic floor joists. The plate is usually 2" x 6", 2" x 8" or 3" x 8". The details above are determined by conditions as shown on the  $\frac{1}{4}$ " scale elevations of the house.

(3)—Indicate the lines of the sheathing and roof material each 1" thick, and drawn until they intersect the line marking the extreme projection of the cornice. This should be scaled from the  $\frac{1}{4}$ " scale elevations.

(4)—Draw the top and bottom lines of the finished cornice as scaled from the  $\frac{1}{4}$ " elevations, and then the profile and soffit in their correct positions.

(5)—The position of the sunk gutter should be determined and drawn, allowing enough space around it for blocking and supports. The gutter should not cut too deeply into the rafters. The main rafters may project to receive the cornice, or for economy, shorter length main rafters may be used ending at the face of the wall. If these latter are used short pieces or blocking must be spiked to the ends of these rafters and to the plate, for the support of the cornice.

(6)—The modillions and bed mould should be drawn to conform with the  $\frac{1}{4}$ " scale elevations. The nailing pieces for the cornice and bed mould are shown. Provision must be made for blocking to support the cornice. The tin lining of the gutter should project down over the edge, and up under the slate or shingles far enough to make the gutter water-tight. Anchor bolts are indicated. These should be approximately 4'-0" on centers, and should be placed in the wall as it is being built. All lettering and cross-hatching should be put in last. All finishing woodwork should be  $7\frac{3}{8}$ " thick, except mouldings which are heavier.

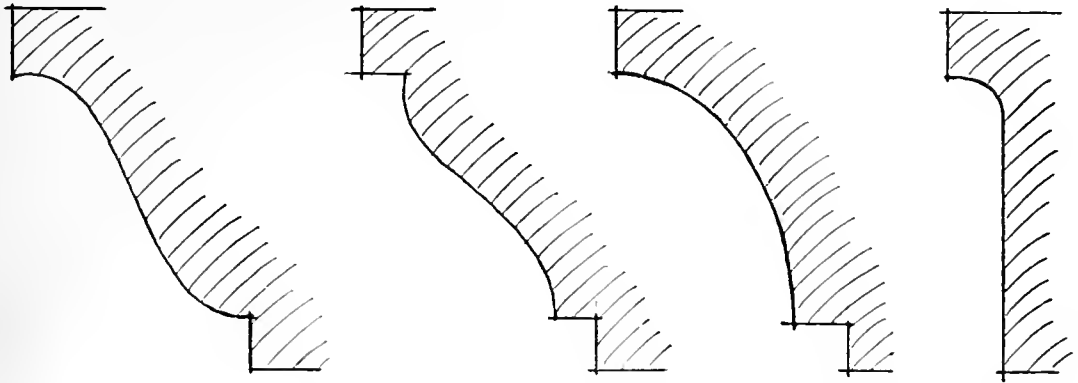


## MOULDINGS AND PROFILES

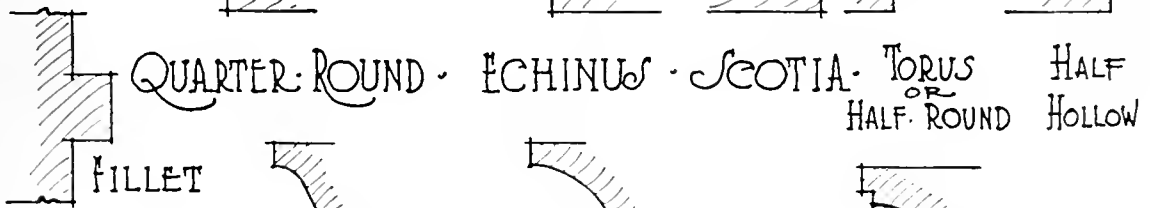
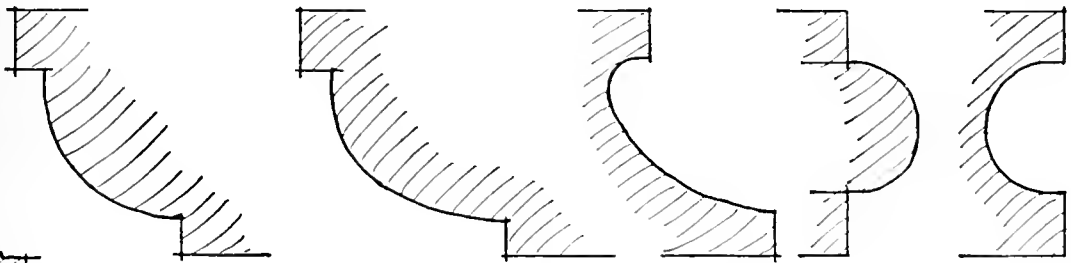
A draughtsman should be familiar with the various mouldings and profiles most commonly used in architectural drawing, and be able to designate them by their technical names. He should practice continually on the drawing of profiles, both at  $\frac{1}{4}$ " scale and at full size, so that he will be able to draw them rapidly and correctly. He will find that even the most complicated cornice, belt-course, architrave, or trim is made up of simple curves, fillets, and facias, joined together in proper arrangement and proportion to obtain the desired effect when seen as a whole.

It is as important to have the mouldings in good proportion as it is to have the entire building proportioned correctly, and if the draughtsman understands the units he can readily draw an entire group of mouldings, forming either a cornice, architrave, belt-course, cap, or base.

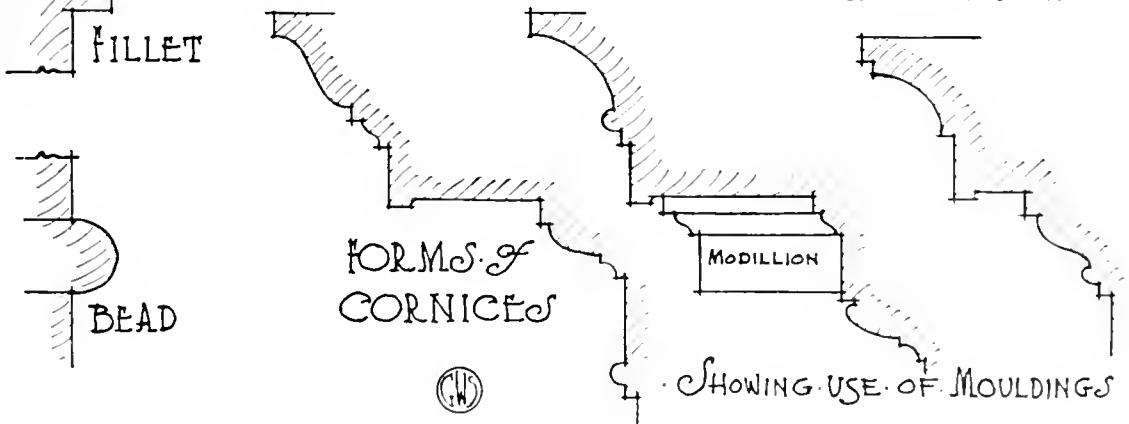
On Plate 26 are shown some of the principal mouldings drawn to a large scale, and below them the profiles of some entire cornices at a smaller scale. By comparing these it may be seen how, with the various mouldings used in connection with facias or flat surfaces, almost any design of moulding or profile can be formed.



· CYMA-RECTA · CYMA-REVERSA · CAVETTO · CONGE



QUARTER-ROUND · ECHINUS · SCOTIA · TORUS · HALF  
OR  
HALF-ROUND · HOLLOW



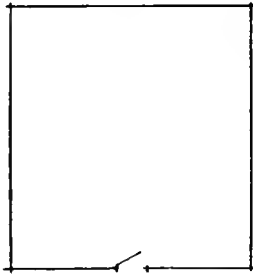
FORMS OF  
CORNICES

MODILLION

· SHOWING USE OF MOULDINGS

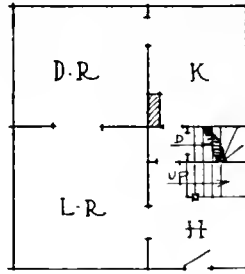
· DETAILS OF MOULDINGS & PROFILES ·

"A"

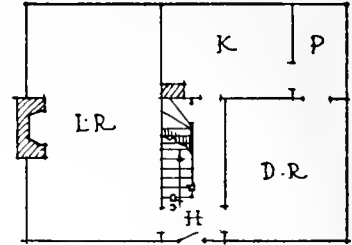


SIMPLE PLAN.  
NO PARTITIONS.

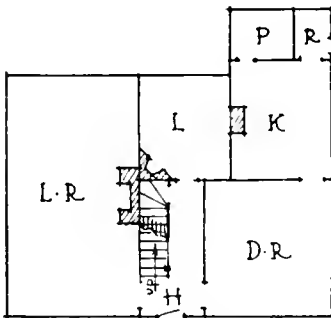
"B"



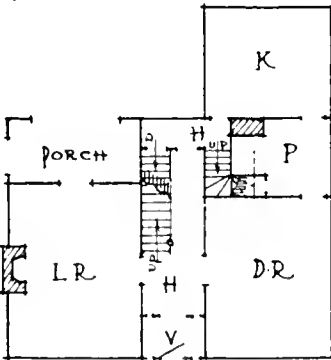
PLAN DIVIDED  
INTO 3 ROOMS.  
STAIRS & HALL.

"C<sub>1</sub>"

STAIR HALL LOCATED IN  
CENTER. PANTRY ADDED.  
L.R. MADE LONGER.

"C<sub>2</sub>"

LIBRARY & EXTENSION FOR  
PANTRY ADDED.

"D<sub>2</sub>"

REAR STAIRS ADDED &  
PORCH SHOWN IN REAR OF  
LIVING ROOM.

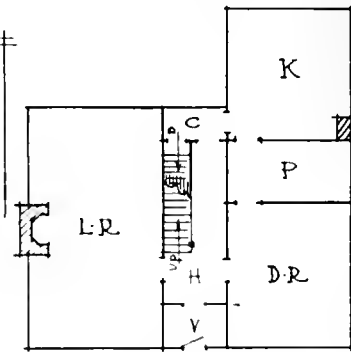
### SIMILARITY of PLANS

MOST of the BET-  
TER PLANS WILL  
BE FOUND TO FOL-  
LOW IN GENERAL  
LAY-OUT. ONE OR  
THE OTHER of the  
SCHEMES INDICAT-  
ED IN THE SKETCHES  
ON THIS SHEET.

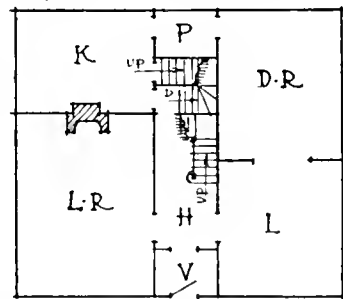
THE PLAN MAY BE  
REVERSED; PORCHES  
OR LIVING & SERVICE  
WINGS BE ADDED,  
& SMALL DETAILS  
CHANGED, BUT THE  
MAIN POINTS of  
THE PLAN WILL  
PROBABLY FOLLOW  
ONE of the SIMPLE  
FORMS HERE SHOWN.



7 SIMPLE INDICATION of MAIN POINTS OF PLANS 7

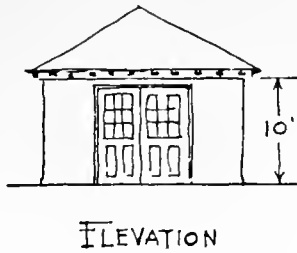
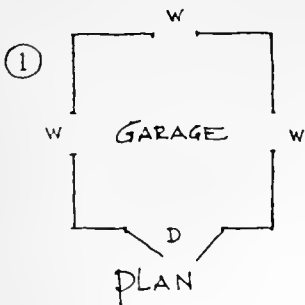


KITCHEN LOCATED IN EXTEN-  
SION. VESTIBULE ADDED,  
PANTRY BETWEEN D.R. AND K.  
STAIRS SET FURTHER BACK.

"D<sub>1</sub>"

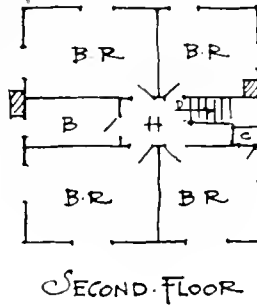
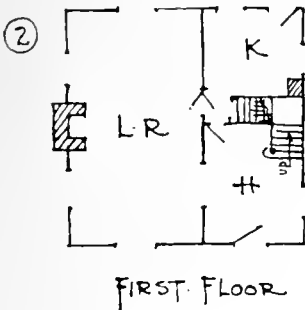
LOCATION OF DINING ROOM.  
KITCHEN & PANTRY & STAIRS  
CHANGED AND LIBRARY ADDED.  
PLAN AGAIN BECOMES SQUARE.

"E"



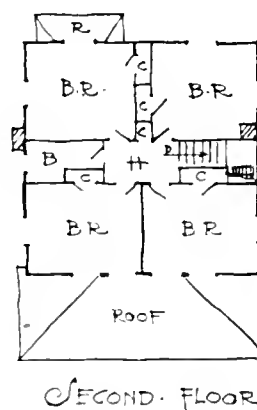
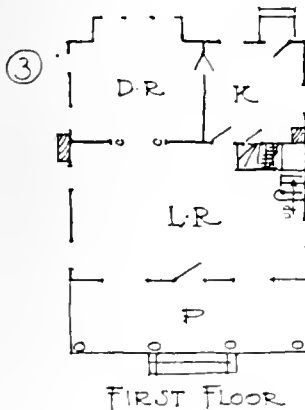
# SINGLE LINE SKETCH- EXAMPLES, #1.

STUDY DETAIL DRAWINGS & NOTES  
ON "PLANS" AND "ELEVATIONS"—



ELEVATION

EXTERIOR BRICK; STUCCO OR FRAME



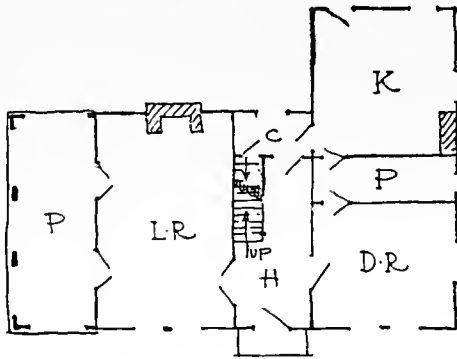
ELEVATION

EXTERIOR TO BE OF  
BRICK OR FRAME

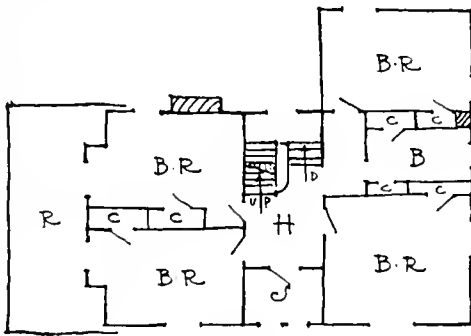


▼ FOR PRACTICE FOLLOWING THE METHOD OF DRAWING DESCRIBED ON THE PRECEDING PLATES, SINGLE LINE SKETCHES ARE HERE SHOWN TO BE WORKED OUT BY THE STUDENT.—FOR SIMPLICITY OVERALL DIMENSIONS ARE GIVEN INSTEAD OF SIZES OF ROOMS.—GARAGE 20 X 20' INSIDE HOUSES 28'0" WIDE X 32'0" DEEP.—EXTERIOR WALLS EITHER BRICK OR FRAME.

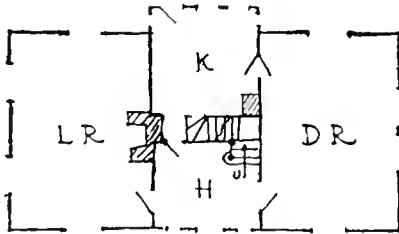
## SKETCH-EXAMPLES #2



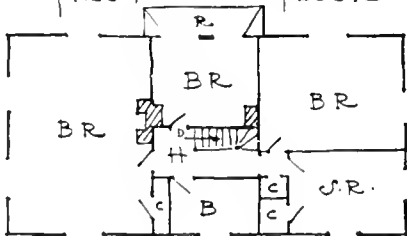
④ FIRST FLOOR PLAN.



SECOND FLOOR PLAN.



⑤ FIRST FLOOR



SECOND FLOOR



ELEVATION

— EXTERIOR TO BE BRICK OR STUCCO —  
— BARGES & BRACKETS ON GABLES —

FOR SIMPLICITY THE DIMENSIONS OVER-ALL WILL BE GIVEN IN SKETCH-EXAMPLES. — THE STUDENT TO WORK OUT THE SIZE OF ROOMS AS EXPLAINED IN CHAPTER ON "PLANS".

MAIN BUILDING — 26' 0" x 38' 0" —

KITCHEN WING 10' 0" x 16' 0" — PORCH 8' 0" WIDE  
EXTERIOR WALLS 13" BRICK FURRED.

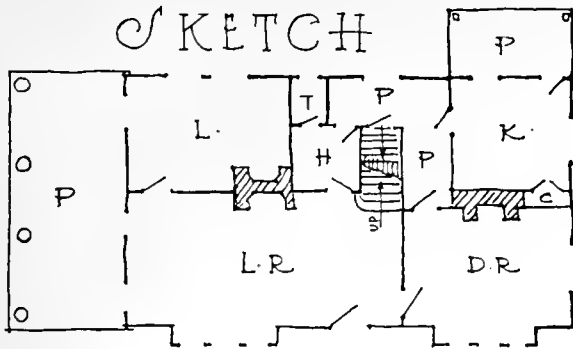


ELEVATION.

OUTSIDE DIMENSIONS 24' 0" x 42' 0" —  
PORCH MAY BE ADDED AT L.R. SIDE  
EXTERIOR WALLS 13" BRICK FIRST STORY  
& 9" BRICK SECOND STORY — FURRED —  
EXTERIOR EITHER BRICK OR STUCCO —  
QUOINS AT CORNERS.

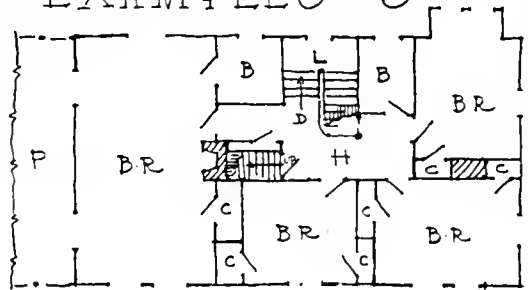
GWS

## SKETCH



FIRST FLOOR PLAN

## EXAMPLES. #3



SECOND FLOOR PLAN

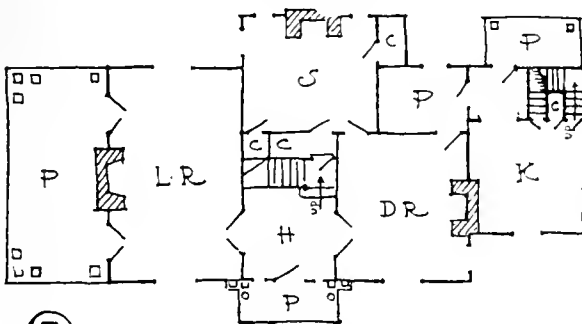
⑥



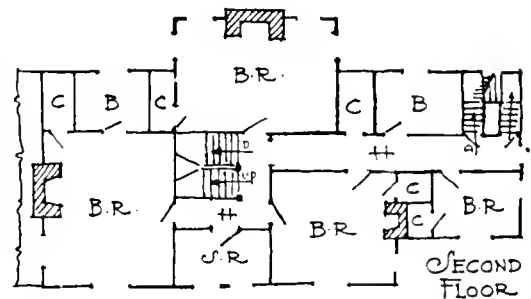
ELEVATION

DIMENSIONS: 28'0" X 44'0" OVER ALL. — PORCH 10'0" WIDE & TO BE ENCLOSED. EXTERIOR WALLS 9" BRICK & 4" HOLLOW TILE OR 12" HOLLOW TILE. — EXTERIOR TO BE STUCCOED. — GABLES TO HAVE BARGES WITH CUT BRACKETS OR MAY HAVE REGULAR MOULDED CORNICE RUN ON RAKE. —

GWS



FIRST FLOOR PLAN



SECOND FLOOR

⑦

MAIN BUILDING 28'0" X 42'0" — KITCHEN WING 12'0" X 20'0" — REAR EXTENSION 6'0" X 18'0" — PORCH 10'0" WIDE & TO BE ENCLOSED. EXTERIOR WALLS 13" BRICK FIRST & 9" BRICK SECOND STORIES. — MAIN CORNICE MOULDED & WITH MODILLIONS — TO RUN UP GABLES.



GENERAL NOTES ON PROPORTIONS OF THE ORDERS.— IN DIAMETERS (D).

TUSCAN. 7 D.—DORIC. 8 D.—IONIC. 9 D.—& CORINTHIAN.

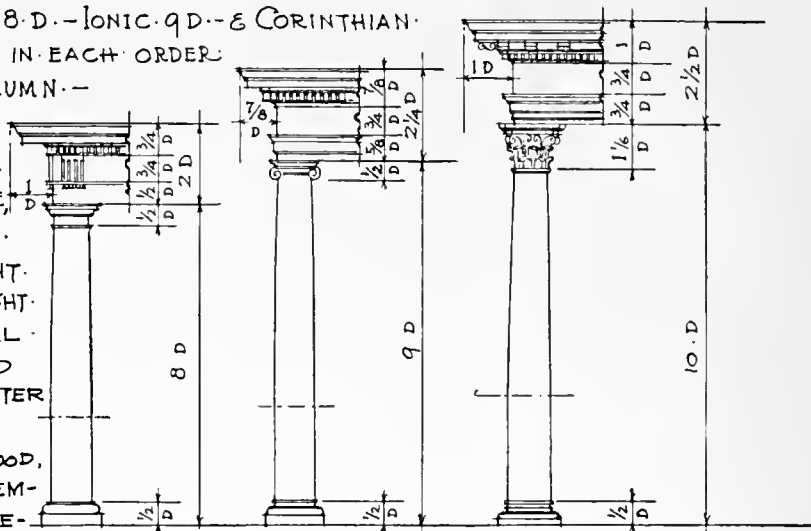
10 D.—ENTABLATURE. IN EACH ORDER:

$\frac{1}{4}$  OF HEIGHT OF COLUMN.—

ENTABLATURE IS COMPOSED OF THREE MEMBERS: ARCHITRAVE, FRIEZE, AND CORNICE.

COLUMNS ARE STRAIGHT FOR  $\frac{1}{3}$  OF THEIR HEIGHT AND HAVE A GRADUAL ENTASIS (OR CURVED TAPER) TO  $\frac{5}{16}$  DIAMETER AT THE NECK.

WHEN EXECUTED IN WOOD, THE COLUMN & ALL MEMBERS SHOULD BE SOMEWHAT MORE DELICATE & THE CORNICE HAVE LESS DEPTH THAN WHEN BUILT OF STONE.

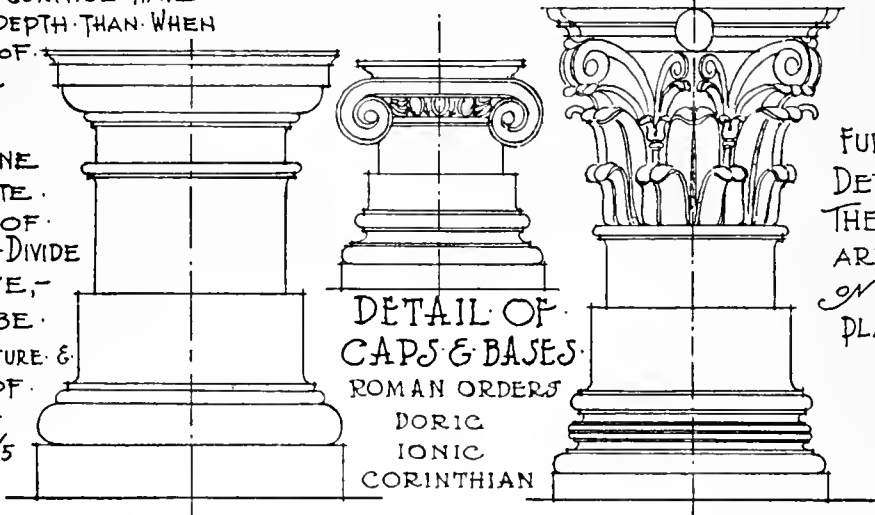


DORIC.

IONIC

CORINTHIAN.

DETERMINE COMPLETE HEIGHT OF ORDER; DIVIDE INTO FIVE, —  $\frac{1}{5}$  WILL BE ENTABLATURE & HEIGHT OF COLUMN WILL BE  $\frac{4}{5}$



DETAIL OF CAPS & BASES.

ROMAN ORDERS

DORIC

IONIC

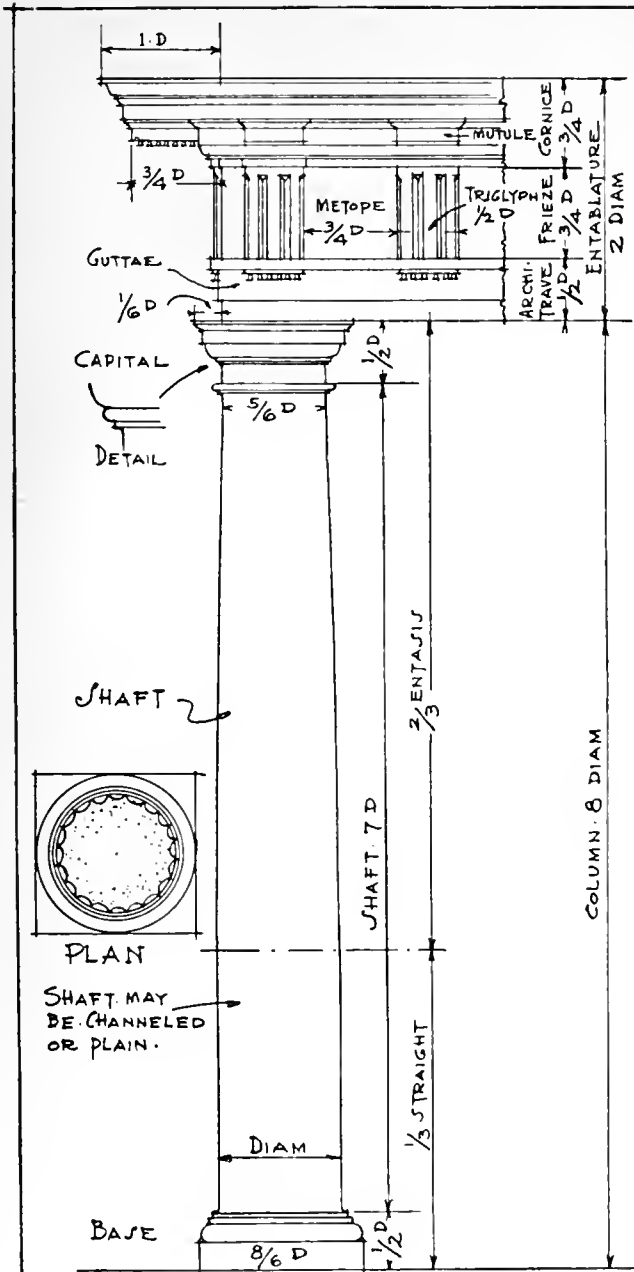
CORINTHIAN

FURTHER DETAILS OF THE ORDERS ARE SHOWN IN FOLLOWING PLATES.—

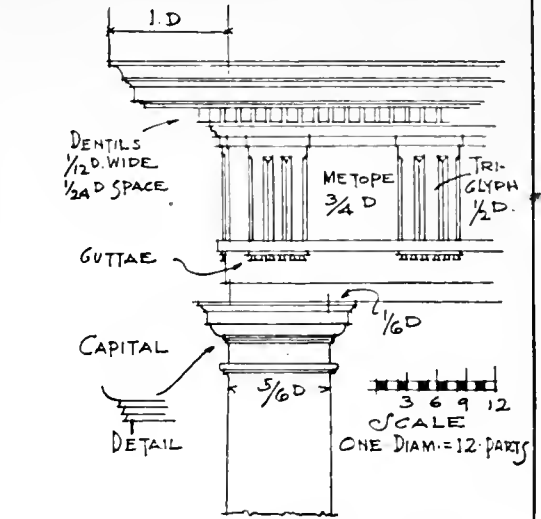
THE STUDENT SHOULD BECOME FAMILIAR WITH THE PROPORTIONS & DETAILS OF THE ORDERS OF ARCHITECTURE.—TUSCAN. DORIC. IONIC. CORINTHIAN & COMPOSITE.—THE DORIC, IONIC, & CORINTHIAN (ROMAN ORDERS) ARE THOSE MOST COMMONLY USED.—MAIN PROPORTIONS OF ORDERS & DETAILS OF CAPS & BASES ARE HERE SHOWN.—

ORDERS OF ARCHITECTURE.





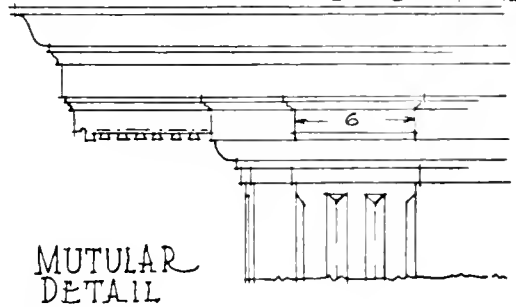
THE MUTULAR DORIC ORDER  
ONE DIAMETER  $\frac{1}{3}$   $\frac{1}{6}$   $\frac{1}{3}$   $\frac{1}{6}$   $\frac{1}{3}$  SCALE OF PARTS



CORNICE OF DENTICULAR DORIC ORDER

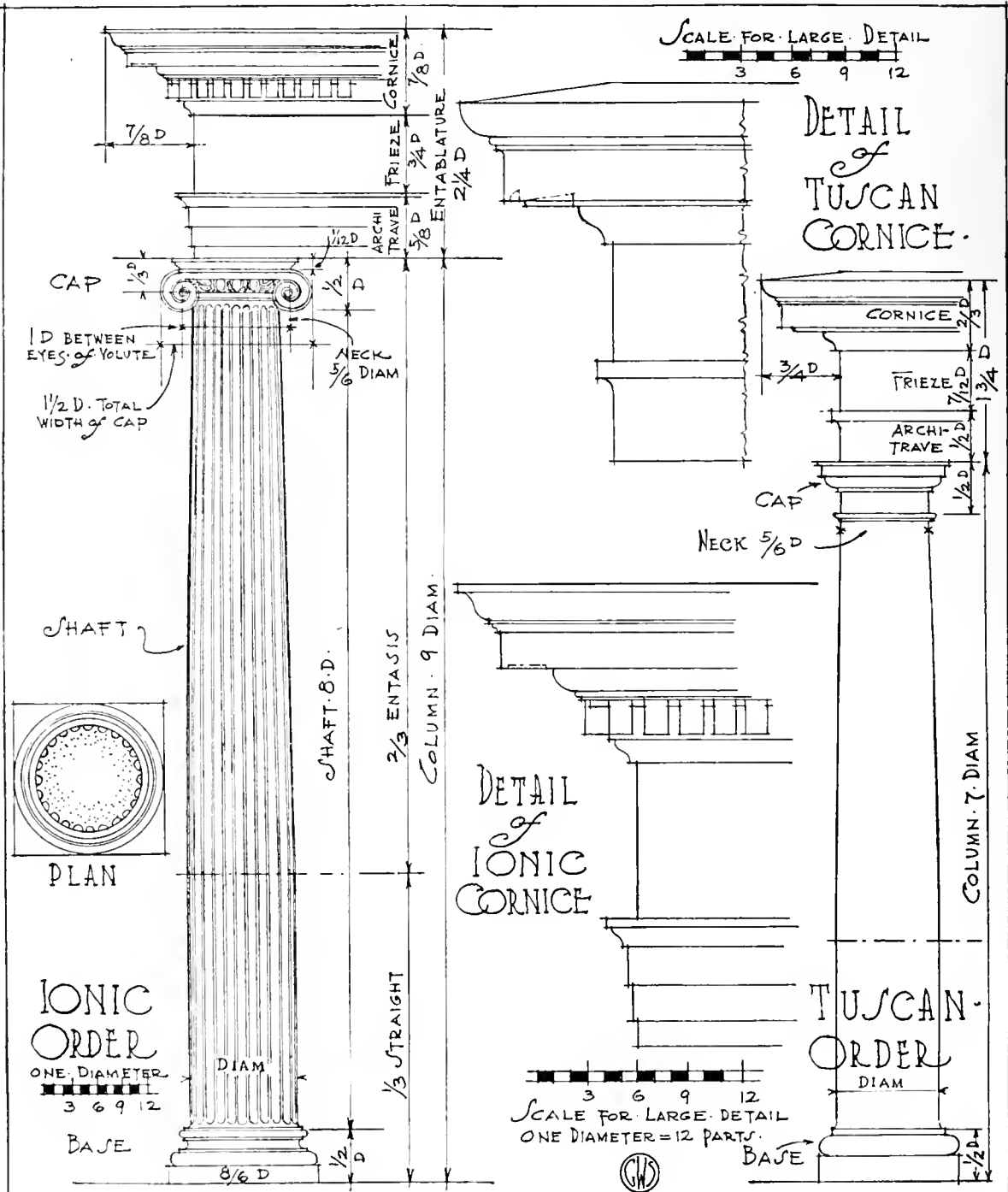
MAIN DIMENSIONS & SHAFT & BASE AS SHOWN FOR MUTULAR DORIC  
IONIC ATTIC BASE ALSO PROPER

SCALE FOR DETAILS BELOW  $\frac{1}{3}$   $\frac{1}{6}$   $\frac{1}{3}$   $\frac{1}{6}$   $\frac{1}{3}$  12

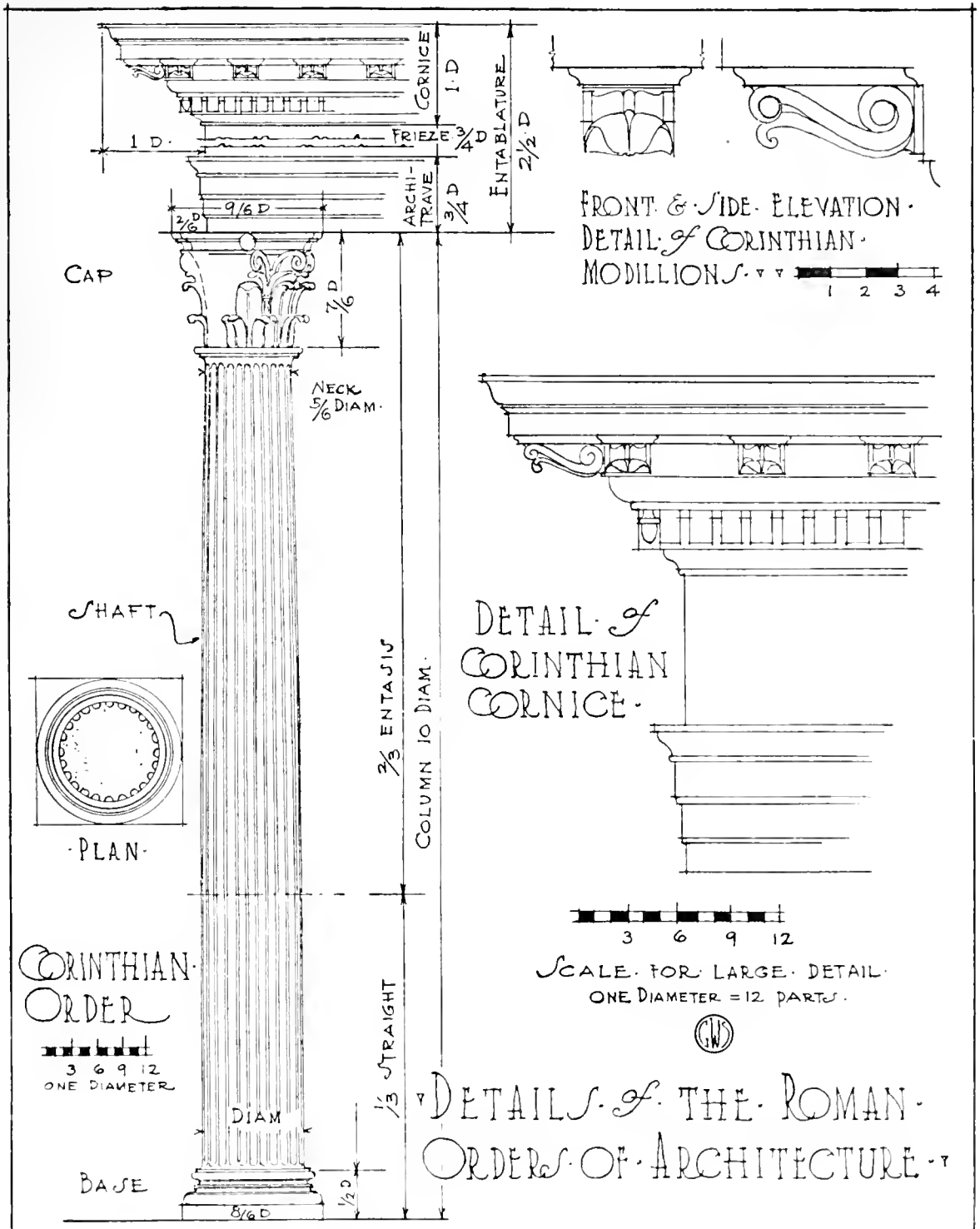


MUTULAR DETAIL

DENTICULAR DETAIL



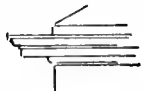
▷ DETAILS OF THE ROMAN ORDERS OF ARCHITECTURE ◁





LETTERING WHEN WELL DESIGNED AND PLACED ADDS GREATLY TO THE INTEREST & PROFESSIONAL APPEARANCE OF THE DRAWING. ~ AVOID MECHANICAL LETTERING & TECHNIQUE. ~ ARCHITECTURAL DRAWINGS; WHICH SHOULD DISPLAY THE INDIVIDUAL TECHNIQUE & FREEDOM. ~ THE ARCHITECTURAL DRAUGHTSMAN. ~ EXCEPT IN SPECIAL INSTANCES ALL LETTERING SHOULD BE CAREFULLY CONTAINED BETWEEN THE GUIDE LINES. ~ THOUGH THE CIRCULAR LETTERS C. G. O. Q. & S. MAY BE SLIGHTLY LARGER. ~

~ MOST OF THE LETTERS EXCEPT THESE SHOULD BE NARROW & SNAPPY. ~ THUS. A. B. D. E. F. H. J. K. L. M. N. P. R. T. U. V. W. X. Y. & THE CIRCULAR LETTERS HOWEVER SHOULD BE DRAWN FULL & ROUND. THUS. C. G. O. Q. RATHER THAN C. G. O. Q. ~ THE S. MAY BE NARROW. THE PREPOSITIONS *of*, *in*, *for*, *from* & "the" MAY BE USED IN SCRIPT FORM SPARINGLY IF BY SO DOING THE DESIGN OF THE LETTERING IS IMPROVED. ~ OCCASIONALLY ALSO LETTERING MAY BE OVERLAPPED. THUS. - NORTH - CORINTH - FLOOR ETC. ~ THE TAILS OF THE R & THE J MAY ALSO EXTEND BELOW THE LINE BUT NOT TOO FREQUENTLY. - FORMS SUCH AS ~ ~ ~ WHEN USED CORRECTLY & SPARINGLY ADD TO THE DESIGN & BALANCE OF THE LETTERING. ~ ~ ~

~ THE CROSSING OF LINES IN ARCHITECTURAL DRAWING SHOULD NOT BE THOUGHT BY THE BEGINNER TO INDICATE HASTE OR CARELESSNESS BUT IS A STUDIED EFFORT ON THE PART OF THE DRAUGHTSMAN TO PRODUCE A CRISP, SNAPPY DRAWING.

THUS.   
- POOR INDICATION -  
LACKS DECISION.

  
BETTER -  
BUT TOO EXACT  
& MECHANICAL.

  
- CORRECT DRAWING -  
LINES SLIGHTLY INTERSECTING -  
GIVING SNAP TO THE DRAWING -  
SHOULD BE CAREFULLY DONE  
SO AS NOT TO CONFUSE PROFILES.

~ HINTS ON LETTERING & TECHNIQUE ~ ETC. ~



▼ ARCHITECTURAL · LETTERING *for* ·  
 USE *W* · THE · PREPARATION · OF ·  
 COMPETITIVE · & · WORKING · ▼  
 DRAWINGS · ▼

· ALPHABET · ▼ ABCDEFGHIJKL ·  
 MNOPQRSTU VWXYZ · & ▼  
 1234567890 · & SMALL · ABCDEFGHI  
 JKLMNOPQRSTU VWXYZ ·

Also · script · alphabet ▼ a b c d e f g h i j k  
 l m n o p q r s t u v w x y z · & · 1234567890 · ▼  
 Used · for · notes · and · fast · work · ▼

OBLIQUE · 1234567890 ▼ ABC  
 DEFGHIJKLMNOPQRSTU VW ·  
 XYZ · & · Small · script · alphabet · abc  
 defghijklmnopqrstuvwxyz · & · ▼ ▼ ▼

▼ FRONT · ELEVATION ▼ EAST · WEST · NORTH ·  
 ▼ SOUTH · ▼ FIRST · FLOOR · PLAN · SECOND · ▼  
 ▼ FOUNDATION · ATTIC · SIDE · & · REAR · ▼ ▼  
 ▼ A · PAGE · *W* LETTERING · ▼



# INDEX

(NUMBERS REFER TO PAGES)

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